

# Manufacturers Record

Industry Construction

Reg. U. S. Pat. Office.



BALTIMORE, MD

FEBRUARY 18, 1932

## Hoarding and Credit

To bring hoarded funds from individuals back into banks, there must be increased confidence on the part of depositors, and to get these funds back into trade there must be more confidence on the part of the banks.

The country is demanding increased credit. Bank liquidity may have been necessary a short time ago, but the fear that prompted it should by this time be pretty well over. Statements to the contrary appear in some quarters; nevertheless there has been a marked contraction in credit. Paper that has not been readily discountable at Federal Reserve Banks has been refused. And with consequent declining deposits, banks have been sailing close hauled.

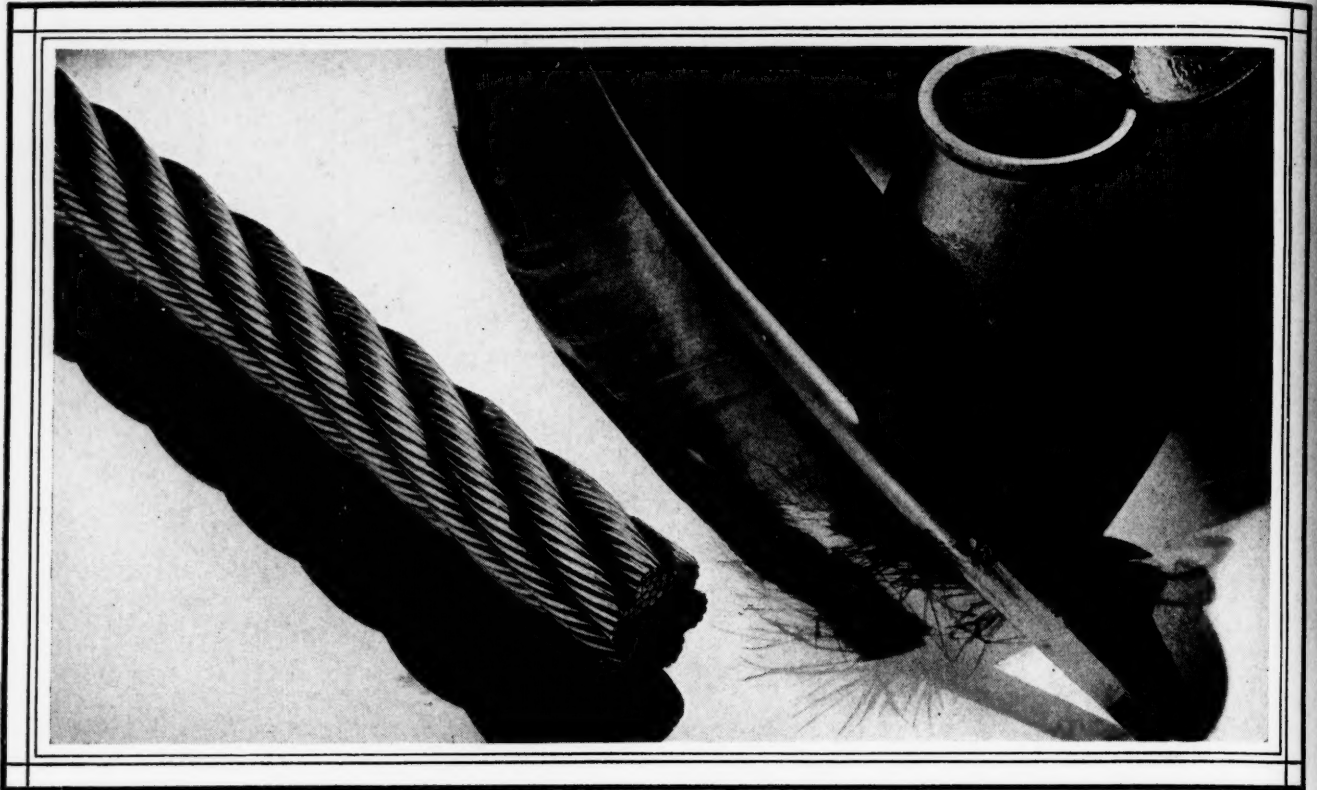
It is the purpose of the Reconstruction Finance Corporation and the Glass-Steagall Measure to show the way out from the maze. President Hoover's appeal to release hoarded money comes not only at a necessary, but a logical time.

Based on published figures of currency circulation, it is estimated there is \$1,300,000,000 withdrawn or hoarded. To release this will mean several times that amount in available credit.

Prices are at a point where both inactive money and credit may be utilized to the advantage of the buyer and to the country's prosperity. Commodities will not remain at present figures. The next general movement should be upward.

The government is doing well in urging the employment of idle funds and in having taken constructive action to increase the credit supply. Action in place of lethargy on the part of individuals, industry and banks should be the order of the day.

Publicity is the first aid sought to spread this before the people. Should not the fact be driven home again and again that the great enterprises of America, and many of them with ample surpluses, who have withdrawn their advertising from public attention have stopped one of the most certain ways of restoring confidence?



## A Plain STATEMENT about Roebling Rope economy

Recently much has been published regarding the service and economy of wire ropes.

For the guidance of rope buyers, therefore, Roebling desires to make the following statement, concerning the operating cost of its ropes, backed up by their performance in actual service over a period of many years:—

*"Roebling does assert that when gauged by the work performed, NO wire rope, regardless of make or construction, will show lower general average operating costs than Roebling."*

If you are not a user of Roebling Rope we invite you to try it—to see first hand evidence of its great stamina. We do not ask you to accept the service record of a single rope as conclusive proof of the general performance of Roebling Rope. Put Roebling Rope to the only reliable and most exacting rope service test:—judge it on the basis of its *average* cost per ton of material handled, per miles of travel, or other unit of service measurement.

JOHN A. ROEBLING'S SONS COMPANY, TRENTON, N. J.  
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There is no such thing as a wire rope "cure-all". No one design of wire rope is suitable for all purposes. ¶Roebling makes wire rope of a great variety of types and constructions, and therefore can supply a wire rope exactly suited to each particular requirement. ¶The great stamina of all Roebling Ropes is primarily due to the quality of Roebling Wire. This Acid Steel Wire is renowned for its fatigue and wearing qualities. No better rope wire is produced. ¶"BLUE CENTER" STEEL is the highest grade and is generally recommended for severe duty.

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Entered as second-class matter at the Postoffice, Baltimore, Md., under the act of March 3, 1879. Vol. CI, No. 7, weekly.



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**N**AME over the leading highway builders of the country — who are they? Certainly among them come such names as these —

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Lane Const. Co.	J. J. McCarthy Const. Co.
Nello L. Teer	A. A. Davis & Co.
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Nixon & Phillips	Northern States Contr. Co.
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Priester Const. Co.	Callahan Const. Co.
A. Guthrie & Co., Inc.	J. P. Holland
Winston Brothers Co.	H. W. Rohl Co.
Nolan Brothers	Fredrickson & Watson Const. Co.

Every one of these concerns has bought a second Northwest and some have owned as many as fourteen and fifteen. These machines have played a part in almost every major highway job from the Bronx Parkway to the Olympic Loop.

As the choice of America's leading highway contractors, it is America's leading road builder.

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# *In the fog—a* **GUIDING HAND**

*As a safeguard, airlines*  
equip with **RADIO TELEPHONE**



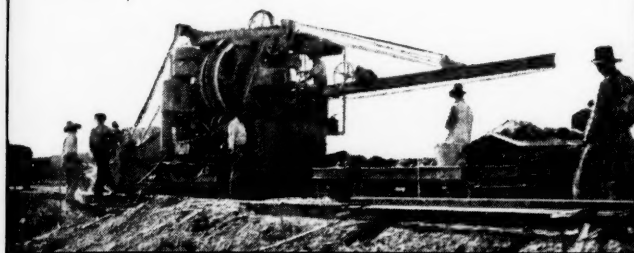
The pilot can fly straight as a homing pigeon—in spite of sudden fog, darkness and low-hanging clouds. With his Western Electric radio telephone, he can talk to ground stations and get instructions and bearings from them at any time. ¶ All the major airlines in this country are using this equipment as an extra safeguard and to help maintain the accuracy of their  mail and passenger schedules. One company, for example, flying 1,000,000 miles a month, has all of its 106 planes and 35 stations Western Electric equipped. ¶ Voice reproduction by means of Western Electric apparatus reflects an experience of over 50 years making telephones and other communication apparatus for the Bell System. 

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**KOEHRING Autocycle Paver 27-E**

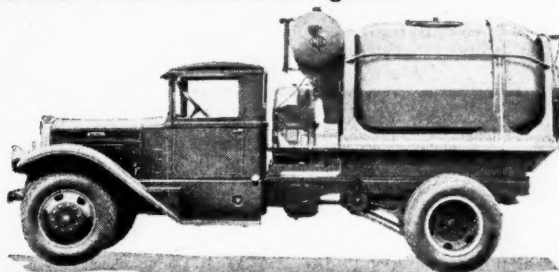


**KOEHRING Extra Yardage Line . . . 2 Speeds and Standard Lines**

**Shovels, Draglines, Cranes, Pullshovels**



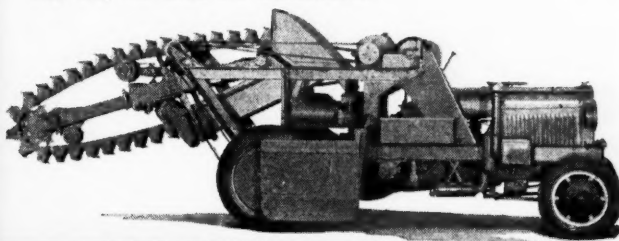
**SMITH Truck-Mixer and Agitator**



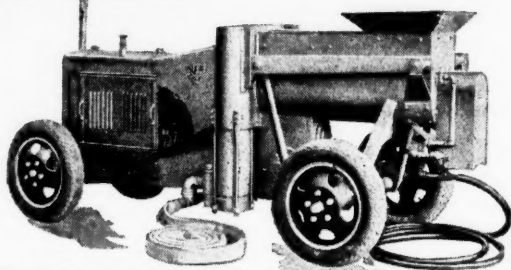
**KOEHRING Dumptor**



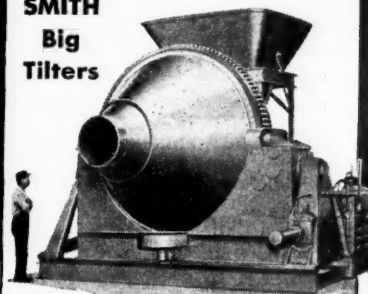
**PARSONS Model 14 Ditcher . . . Also models 25, 31, 35 and 23 Backfiller**



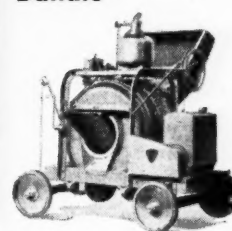
**N. E. C. Mud-Jack**



**SMITH Big Tilters**



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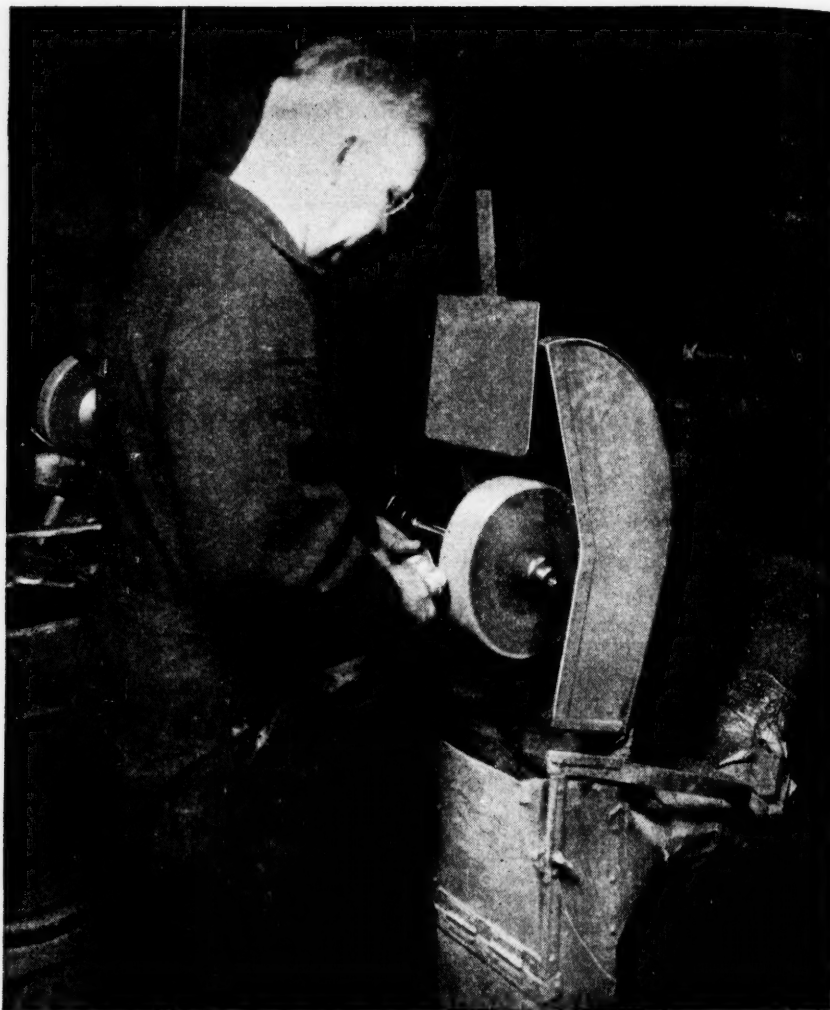
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# TABLE OF CONTENTS

Baltimore, Md., February 18, 1932

## EDITORIALS

Hoarding and Credit.....	Cover Page
A General Sales Tax.....	11
An Industrial Opportunity.....	12
Continue Building Highways.....	12
Home Versus Foreign Markets.....	13
Railroads as Buyers.....	14
The People Are Stockholders.....	14
England's Protective Tariff.....	14
A Great American.....	14

## NEWS and FEATURE ARTICLES

What 26,000,000 Motor Vehicles Mean to Business and Employment.....	15
Flooring Made From Sawmill Waste in Mississippi .....	16
Unit Bids Invited on \$3,700,000 St. Louis Auditorium.....	17
Plans for \$350,000 Dallas School.....	17
New \$2,500,000 Thread Mill at Austell, Ga.....	18
Spares for Pipeline Repairs.....	19
Industry's Interest in Rural Roads.....By M. S. Winder	20
New Transparent Wrapping Material Made From Cotton.....	22
Signs of Better Business.....	23
The Orient an American Market.....	24
Jacksonville a Robust Centenarian.....By Dallas T. Daily	25

## SPECIAL DEPARTMENTS

### *Construction, New Industries and Contracts, Beginning on Page 29*

Iron, Steel and Metal Market.....	26	Trade Literature .....	38
New and Improved Equipment.....	28	Industrial News .....	38
Machinery, Proposals and Supplies Wanted..	37	Financial News .....	46

<i>Classified Index for Buyers.....</i>	<i>54</i>
<i>Alphabetical Index to Advertisers.....</i>	<i>62</i>

## MANUFACTURERS RECORD

Published Every Thursday  
by the

MAIN OFFICE  
Manufacturers Record Building,  
Commerce and Water Streets,  
Baltimore, Md.

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Subscription Rates: \$6.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$2.60 a year. For other foreign countries add postage \$3.50 a year. Single copies, 20c.; back numbers, one to six months, 50c. each; over six months, \$1.00.

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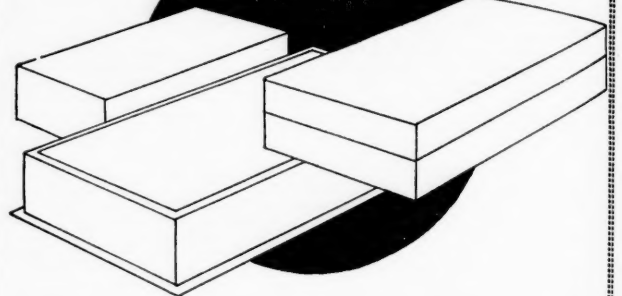
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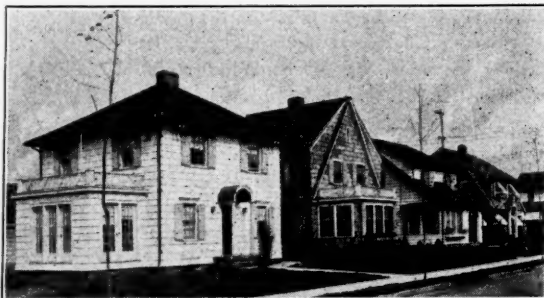


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# Manufacturers Record

Reg. U. S. Pat. Office

Devoted to the Upbuilding of the Nation Through the Development  
of the South and Southwest as the Nation's Greatest Material Asset

Vol. CI No. 7 }  
Weekly }

BALTIMORE, FEBRUARY 18, 1932

{ Single Copies, 20 Cents.  
{ \$6.50 a Year

## A General Sales Tax

IT is patent to everyone that some form of sales tax will be necessary to enable the Federal Government to meet its revenue deficiency and balance its budget. The sales tax is one of the fairest forms of taxation available. No other general method of securing revenue will impose less burden or so definitely operate to encourage thrift and savings in public expenditures. It is to be remembered that no matter what form of tax is levied the ultimate consumer pays his proportion whether for rents, or commodities, or when he buys service.

As Senator David A. Reed said last year:

"It is axiomatic that the steadiest revenue comes from a tax with the broadest base—that is to say, the more individuals that are taxed and the more articles to which the tax relates, the less will be the fluctuations of the yield from year to year. Most of our income tax is paid directly by one-half of one per cent of the population and the tax is based not on the amount of business they do, but on the marginal profit that they achieve. The inevitable result is that in hard times the yield from such a tax dries up almost to the vanishing point."

That condition has seemed nearer under the depression, and a sales tax is a definite way out. It should be as general as possible to eliminate objectionable discriminatory features.

A Gross Receipts Federal Tax modeled somewhat on the general sales tax by that name which has been in force in Georgia since 1929 and in modified forms in West Virginia, Pennsylvania and Kentucky, should offer proof, by the evidence in those states, that such taxes are equitable and easy to collect. Canada has a similar law, and among other nations which levy a sales tax are France, Germany, Italy, Belgium, Czechoslovakia, Austria and the Philippines. The Congressional Committee now considering the national tax question has all of the information available as to such laws and their operation.

Referring to the Canadian four per cent sales tax

which is confined to manufacturers and importers, M. Gratton O'Leary, a distinguished Canadian editor, said: "One of the factors operating in favor of the Canadian sales tax is that it has made no appreciable difference in the cost of living. In the ten years that the tax has been in operation no single province of the Dominion has entered protest against it."

A tax of one-half of one per cent on the gross receipts of all business with an annual volume of \$10,000 and above would yield approximately \$600,000,000. In 1929 the gross value of all commodities produced available for trade in the United States amounted to more than \$96,000,000,000, including \$4,000,000,000 of imports. The aggregate value of wholesale trade was \$69,500,000,000 and retail trade \$50,000,000,000, a total of more than \$215,000,000,000. Allowing for reduced prices, lessened volume of trade, the \$10,000 exemption suggested and some overlapping of business among the production and sales groups, such an aggregate volume of business of the United States in 1932 counting business as having declined 40 per cent, should show a combined gross sales value representing the stupendous sum of more than \$120,000,000,000. One-half of one per cent tax on this gross amount would yield a revenue of \$600,000,000. In addition there would be further revenue from the tax levied on all other business, including those in the service and professional groups and amusements. Even if the gross sales tax in a few extremes was pyramided several times, from the raw material producer to the finished product sold by the retailer, the amount involved would be hardly noticeable in small unit sales to the individual consumer.

As William C. Cornwell, economist of J. S. Bache & Co., pointed out in a discussion of the sales tax question in 1927, under a one per cent rate were the tax passed along with each sale from wheat to flour,



to bread, it would add to the cost of a loaf of bread less than one-sixth of one per cent per loaf and at the prices prevailing in 1927 it would have added to the price of a pound of beef only four-tenths of a cent a pound. Quoting the same authority, he demonstrated that to a suit of clothes retailing at \$60 a one per cent sales tax would add \$1.57, and to a rubber tire which passes through 11 stages from crude rubber and raw cotton, retailing at \$35 per tire, it would add \$1.14 or a little over 3 per cent which would be an extreme case. Of course one-half of one per cent tax would be less than the examples cited.

Present taxes are passed on to the consumer wherever possible and probably in larger percentages. Should the sales tax cause a rise in the general price level, the mere fact that commodities were advancing would tend to stimulate buying and thus start the wheels of industry moving faster.

Under the continuance of a fair income and inheritance tax and the very small gross business receipts tax as an emergency measure, every person in the United States would be paying his proportionate share to the Government. It is the only sane and equitable way to meet the national tax problem.

## An Industrial Opportunity

**A**PPROXIMATELY \$185,000,000 is the amount given as the retail value of furniture purchased in the Gulf Southwest during 1929, according to preliminary figures based on the results of the furniture survey being conducted by the Department of Commerce in that region. The value, at manufacturers' prices, of this furniture sold in the Gulf Southwest is estimated at \$90,000,000. Furniture plants located in the area manufactured a little more than \$37,000,000 worth. Therefore, E. F. Gerish, chief of the Regional Division of the Department of Commerce, points out that the opportunity for the manufacture of furniture in the Gulf Southwest is evident, as there must have been a net importation of furniture into this region from outside in excess of \$50,000,000.

There are large stands of timber in the area of 40 inches of rainfall in the eastern half of the Gulf Southwest. In areas of 60 inches of rainfall along the coast the pines, used as building and construction materials, predominate. In the alluvial bottoms and swamps along the Mississippi, the Arkansas, and the Red rivers, grow red tupelo and black gum, cypress and other suitable woods for furniture making. There, too, back from the alluvial bottom lands on the slopes of the Ozarks in areas of 40 to 60 inches of rainfall, are found Southern hardwoods, such as poplar, oak, beech, walnut, hickories, red and black gums and maples, all of which are suitable for furniture manufacturing. Naturally, believes the Department of Commerce, furniture manufacturing would develop in this area. With cheaper, softer woods for the main body, and increasing skill in workmanship and the

laying on of veneers, furniture manufactured locally should in time supply a large proportion of the retail demand in the Gulf Southwest.

## Continue Building Highways

**A**S recently pointed out in these columns it is conservatively estimated that if the automobiles of the country, averaging 5000 miles per annum each, were operated solely over hard-surfaced roads, the annual saving would be \$3,000,000,000.

There are 3,000,000 miles of roads in the United States, and less than 700,000 miles have received any kind of surface, while only about 125,000 miles of roads have high type hard surface. Of the important things entering into our progress, the building of improved highways has been of the first rank. We add thereby to our taxable wealth, we improve our well-being, our education, our health and our social life.

The money spent for improved roads is an investment, paid for by the application of a reasonable gasoline tax for highway use.

Without abating in the least the demand for a balanced budget, without ceasing to point out the necessity for economies in state and city governmental administration, it is entirely consistent to urge that the measures before Congress for Federal aid and emergency highway work shall be adopted. No bills under consideration will give prompter employment to idle labor, or aid in greater degree in the promotion and maintenance of prosperity. A let up in this program now will be a mistake. In contrast with any thought of a dole or gratuitous money to be handed out to the needy, it should receive first consideration.

The demand for highways is unquestioned. The need is as wide as the nation. Costs are low at the present time. State Highway Departments are trained and ready to go ahead. There is every reason to hope and expect that the work shall go on.

It is estimated that out of every \$1000 expended, \$910 ultimately finds its way to the wage earner and not only benefits the man on the job, but engineers, contractors, manufacturers and tens of thousands of workers in manufacturing plants producing road equipment and road materials, as well as employees of transportation companies.

It is a question of Federal leadership and we believe Congress can do no better work than to pass the highway measures promptly.

**S**HORTAGE of supplies in many industries was demonstrated by the recent experience of a large corporation which decided suddenly to reopen its service shops. It was found that because of lack of materials and parts it would be three weeks before the plant could operate.

# Home vs. Foreign Markets

THE expressed belief of the MANUFACTURERS RECORD that foreign markets for American trade are of almost negligible value in comparison with our own domestic market is further emphasized by a statement from Dean Wallace B. Donham of Harvard. In his book, "Business Adrift," Dean Donham argued that stable American prosperity must be based on the American domestic market rather than on foreign trade. In an interview in the Boston Transcript, he goes much farther.

"Lower New York," where Dean Donham symbolizes American finance and business, is depressed because of "its conviction that our future prosperity depends on expansion of our foreign markets." The feeling there that there is no hope except that based on the recovery of Europe as our market "is a gloomy outlook—it is easy to see that this is not our salvation." As quoted indirectly in the Transcript, he continues:

"The strong probabilities for the next 20 years are that population will continue to grow, more millions must be absorbed into industry from the farms; technological and management improvements in business will continue and accelerate, and great new inventions will have less effect than in the past 20 years. These, except the last, are all problems.

"Under these problems, the widespread assumption is that we should still further aggressively expand our foreign trade. But, behind the assumption there is no sound plan. The assumption is made because we see no other remedy by which to correct our mistakes. The factors are all against success. The fight will bring down our wages and standards of living. We cannot compete with cheap labor that uses modern methods. If we are going to compete on a large scale abroad, we must allow competition here. We should then turn almost wholly to mass production and Europe could destroy our principal market by developing its own mass production behind tariff walls.

"If we base our national economy on foreign trade, we base it on the least stable element in the whole international situation."

With Dean Donham's urge for protection of the American domestic market, sound thought is in accord. In 1929, the industrial output in the United States aggregated \$92,000,000,000, of which about \$76,000,000,000 represented manufactured and mining products and \$15,900,000,000 farm products. Appreciably over 90 per cent of our aggregate production is absorbed in the United States domestic market, with exports normally exceeding imports by a relatively unimpressive margin. The American market is the foundation on which American wages and living standards are established and on which they depend.

The proper defense for this huge domestic market is a protective tariff of sufficient strength to repel competitive invasion with foreign goods produced at wage levels far below the American standards. Without this defense, "Europe could destroy our principal market by developing its own mass production behind tariff walls," as Dean Donham says. Tariff protection has been invoked by many nations in recent years, not in retaliation to the American protective tariff, but for stimulation of their domestic

industries. In proportion to such protection, the wage and living levels of foreign workers should rise; but not in generations, if ever, will they reach even the minimum average of American standards. As John E. Edgerton, president of the National Association of Manufacturers, has said:

"Tariff, just as inseparably as insurance, is bound up with our family life and with the public welfare—just as inseparably as health insurance, as life insurance, as accident insurance, as fire insurance. For, Tariff is insurance, itself. Tariff is insurance that extends a protection into every home and into the personal lives of all who live and breathe and pursue their fortunes within the boundaries of the United States.

"Tariff is insurance created to keep the wheels of industry turning; to keep American men at their American tasks, supplying the wants and needs of their fellow men; to maintain the comforts and luxuries of our people on a scale that cannot be matched or even approached by the people of any other country on the face of the earth.

"It is the broadest insurance ever written. It is insurance, not for the so-called 'big interests,' nor for the lesser interests, but for the interests of all industry, all business and the common welfare."

From earliest days of the Republic, Mr. Edgerton says, the American people have promoted their prosperity and happiness primarily by patronizing their own home markets. "For years," he adds, "we have consumed almost everything produced in our own country. Today, our people are buying from their own more than 90 per cent of all that is mined, grown or manufactured within our own territory."

The Southern States Protective Tariff League, a non-partisan organization with headquarters at Gadsden, Ala., referring to the fact that demands will be made at this session of Congress for "tariff repeal," "tariff revision" and "tariff modification," asserts:

"The fact is that steadfast adherence over a period of many years to sound protective tariff principles has made America the best and highest market in the world for the things other nations have to sell that we cannot produce. No other nation has such an enormous buying power for the products of other countries, and Congress will protect that buying power by protecting our producing power, labor and capital, against low standard, foreign competition.

"Let us stand together here in the South and maintain our protective policy so as to insure the operation of our industries, and furnish employment to our men and women."

Is this prodigious market to be thrown open to products made by cheap foreign labor? The American market must be kept inviolate for the welfare of the American worker and his dependents as well as the people of this country as a whole.

Cultivation of foreign markets does not necessitate the free foreign entry to our domestic field which Dean Donham seems to fear. It is quite in order to believe that American goods of various kinds can in many instances successfully compete in foreign markets, just as foreign goods pour in a stream through our far from impregnable defense. But, to barter one dollar of our own domestic trade for one dollar of American trade in foreign markets would create odds of 9 to 1 against us, as indicated by normal figures.



## Railroads As Buyers

**T**HERE are at present 4900 miles of electrified railroad trackage in operation and the progressive expansion of this mileage will make for wide industrial stimulation. The mileage now electrified represents only a little over 1 per cent of the 429,000 railroad miles in the country.

Under the general classification, "All Electrical Materials," the Class I railroads in 1930 spent \$14,700,000. The electrification work now penetrating into the South between Baltimore and Washington affords travelers an idea of the number and varieties of industries, other than electrical, which are productively concerned in supplying equipment. Tile conduits are required to carry telegraph and signal cables; great steel poles, embedded in concrete bases, line the right of way like trees. Miles of wire must be strung to carry the current, and transformer stations must be set up. These are simply conspicuous features visible to the traveler's eye.

Construction of electric locomotives involves the use of thousands of pounds of steel and other metals, and varieties of machinery and devices. A typical car for electrified service is a multiple unit, weighing 126,000 pounds and equipped with two 300-horsepower motors. Connectors are provided to save pantograph and trolley wear; appliances facilitate changing of motors; a magnetic door latch and thermostat control and regulate the temperature. The cost of upholstery and other fittings runs to a high figure for each car and a wide variety of industries is called upon to provide the necessary materials.

The electrification of the railroads, at a reasonable rate of progress, may be expected to promote an expenditure of many millions each year among industries in scores of lines, with corresponding increases in employment.

From a precarious financial position, constructive readjustments of freight rates and wage scales have eased the railroad's condition, and as the greatest individual customer for American industry and trade their influence as a stimulant to prosperity will soon be felt.

## The People Are Stockholders

**F**URTHER and interesting evidence that the industries of the country are owned mainly by the people appears in the annual reports of the New York Life Insurance Company and E. I. du Pont de Nemours & Company. Through the former, the people's ownership is indirect; through the latter, it is probably more direct.

Of New York Life investments running to \$190,000,000 for the year, or \$633,000 for each working day, \$32,380,000 went into selected securities of leading public utilities, railroads and industrials. Other investments included: Mortgage loans, \$43,000,000;

United States Government bonds, \$32,800,000; state, county and municipal bonds, \$24,450,000; preferred and guaranteed stocks, \$7,398,000, and so on. More than \$1,890,000,000 of assets, invested largely in these various lines, may be said to belong to the people.

An increase of 7800 stockholders in the year, or 22.6 per cent, raised the direct owners of the du Pont company's common stock to 42,400.

## England's Protective Tariff

**A**DPTION of a general tariff, with only half a dozen exceptions, by Great Britain marks the return by that country to a policy which it long practiced in bygone years. Passing over the feudal tariff of the Middle Ages, England operated under a tariff system in the early part of the last century, abandoning it gradually from 1827 to 1852, when free trade was adopted. In 1921, a new tariff was adopted for the defense of essential industries, and although some duties were repealed in 1924, they were reenacted in 1925 and the safeguarding of industries was given wider scope.

## A Great American

**T**HE nation observes the 200th anniversary of the birth of George Washington next Monday. It is fitting that a series of celebrations, extending over many months, shall pay tribute to the memory of this—the greatest of Americans—soldier, statesman and business man. George Washington lives in the hearts and minds of all true Americans, both as a man and as personification of the ideals on which the Republic was founded.

Washington's life endeavor is summarized clearly and concisely in the Preamble to the Constitution of the United States:

"To form a more perfect Union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity."

This was the aim of Washington's service.

Washington was more than a soldier and statesman. He was one of the country's first engineering and industrial developers. The South has reason to be interested in this phase of his activity since he initiated the establishment of many commercial enterprises in this section.

In the light of the present world turmoil, would George Washington have failed to "provide for the common defense"?

It is well for the American people to remember the basic principles which guided Washington through the dark days of the young Republic. Not the least of these principles was that, as a nation, the United States should mind its own business and keep out of entangling foreign alliances.



# What 26,000,000 Motor Vehicles

## Mean to Business and Employment

**S**TATISTICS compiled by the National Automobile Chamber of Commerce, in support of arguments against Federal motor vehicle taxes, show that 22,450,000 passenger automobiles and 3,490,000 trucks were in use in the United States in 1931. It is of interest to note that 57 per cent of the passenger cars and nearly 50 per cent of the trucks now operating are owned by farmers and residents of towns under 10,000 population. Farmers as a group own 26 per cent of the trucks and 18 per cent of the cars in the United States. More than 85 per cent of all automobiles sold are priced at less than \$750 wholesale. More than 85 per cent of all motor trucks are owner-operated. Two-thirds of all motor car buyers have annual incomes of \$3000 or less. More cars are purchased by persons with incomes under \$1400 a year than by those having incomes over \$6500.

Motor vehicle taxes in 1931 aggregated \$1,022,000,000, or nearly 10 per cent of all Federal, state and local taxes.

In recent issues, the MANUFACTURERS RECORD has emphasized the buying power of the automotive industry and the part it plays in creating business through the purchase of raw materials. In an analysis of the proportion of raw materials used by the industry to the country's total consumption, it is shown that it is the largest purchaser of rubber, gasoline, lubricating oil, plate glass, nickel, lead, and the second largest user of steel.

Producers who supply raw material for the building of motor vehicles are to be found in every state in the Union. The South supplies, by states, the following principal products:

Alabama—Iron ore, steel, coal and coke, cotton and cotton cloth.

Arkansas—Lumber, petroleum, lead, manganese and cotton.

Florida—Cotton and lumber.

Georgia—Cotton, asbestos, lumber and manganese.

Kentucky—Lumber, petroleum, leather, coal, paint and parts.

Louisiana—Lumber, petroleum, gasoline and cotton.

Maryland—Ferroalloys, chromium, asbestos, paints, parts, accessories, equipment and tires.

Mississippi—Lumber and cotton.

Missouri—Hides, paints, varnishes, gasoline, etc., lead, zinc, cotton, wool, parts, accessories and equipment.

North Carolina—Aluminum, nickel, cotton, cotton cloth, mica, abrasive garnet, and leather.

Oklahoma—Hides, petroleum, gasoline, etc., lead, zinc and cotton.

South Carolina—Cotton, cotton cloth, parts and equipment.

Tennessee — Aluminum, lead, zinc, nickel, cotton, accessories and equipment.

Texas — Hides, petroleum, gasoline, etc., cotton, wool, mercury, parts, accessories and equipment.

Virginia—Cotton, manganese, mica, coal, emery and excelsior.

West Virginia—Steel, leather, lumber, coal and plate glass.

### PERCENTAGE OF COUNTRY'S RAW MATERIAL CONSUMPTION USED BY AUTOMOBILE INDUSTRY, 1931

Product	Per Cent
Gasoline .....	85
Rubber .....	82
Plate glass .....	68
Steel .....	15
Malleable iron .....	53
Aluminum .....	17
Copper .....	14
Lead .....	26
Zinc .....	6
Tin .....	14
Nickel .....	30
Lumber .....	18
Upholstery leather .....	51
Cotton .....	9

The number directly and indirectly employed in manufacturing and servicing divisions of the automobile industry in 1931 reached a total of 4,022,000 persons, or 9½ per cent of the gainful workers in the United States.

### PERSONS EMPLOYED DIRECTLY

	Number
Motor vehicle factory workers.....	228,000
Parts-factory workers .....	119,000
Tire factory workers.....	50,000
Car dealers and salesmen.....	205,000
Supplies dealers and salesmen.....	95,000
Garage and repair shop employes....	537,000
Professional chauffeurs .....	380,000
Professional truck drivers.....	1,573,000
Automobile financing and insurance	10,000
Total .....	3,197,000

### EMPLOYED INDIRECTLY

Gasoline refining and retailing.....	350,000
Iron and steel workers.....	40,000
Copper, lead, tin, nickel, aluminum workers .....	10,000
Railroad workers .....	60,000
Lumber and wood workers.....	6,000
Electric power and coal workers....	4,000
Highways .....	325,000
Other raw material suppliers.....	30,000
Total .....	825,000

Grand total .....

4,022,000

In the light of the foregoing facts we gain a clearer conception of what it means to business and employment when we speak of the 26,000,000 motor vehicles owned and operated in the United States.



Recently Completed Bituminous Macadam Highway in West Virginia

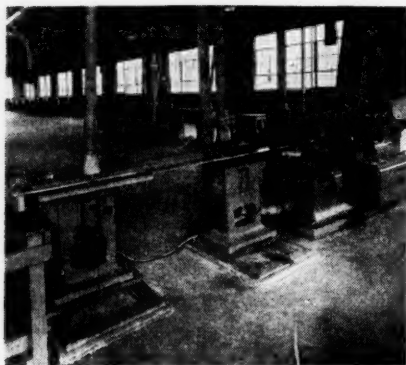
# Flooring Made From Sawmill Waste

**C**ONSTRUCTED especially to produce a "cushioned flooring," the new unit of the Masonite Corporation plant at Laurel, Miss., is a one-story brick, steel and concrete structure containing approximately 40,000 square feet

the expanses of skylights overhead. Improved methods of artificial lighting, as well as ventilating, also are embodied in the design.

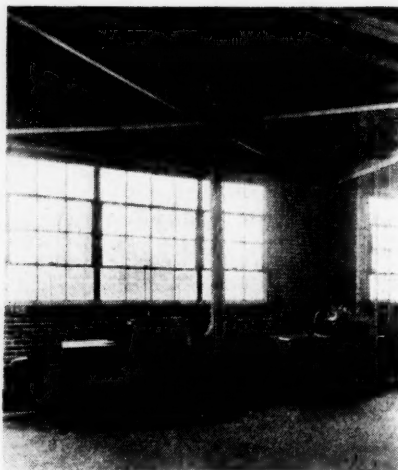
Contributing directly to the facility with which the plant was constructed was the cooperation given Masonite engineers by the Ingalls Iron Works, Birmingham, contractor for the steel work; also by R. L. Glenn, Laurel, contractor for the brick work, and by H. H. Robert-

son & Co., Pittsburgh, contractor for the skylights. Many of the machines installed were designed and built by the Masonite Corporation. Due to special nature of production of the new flooring, changes had to be made in all the stand-

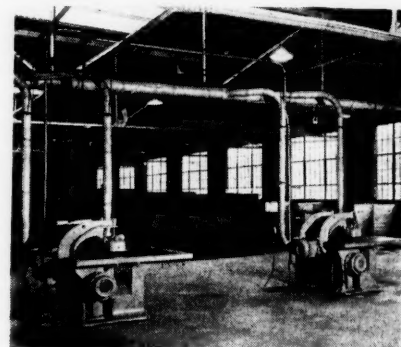


Moulding and Shaping Machines

of floor space. The building was completed four weeks after beginning of construction, and equipment was installed and in full operation two weeks thereafter. Capacity is 100,000 square feet of flooring daily. A maximum of natural light is provided through the sides of the structure which are composed entirely of windows, and through



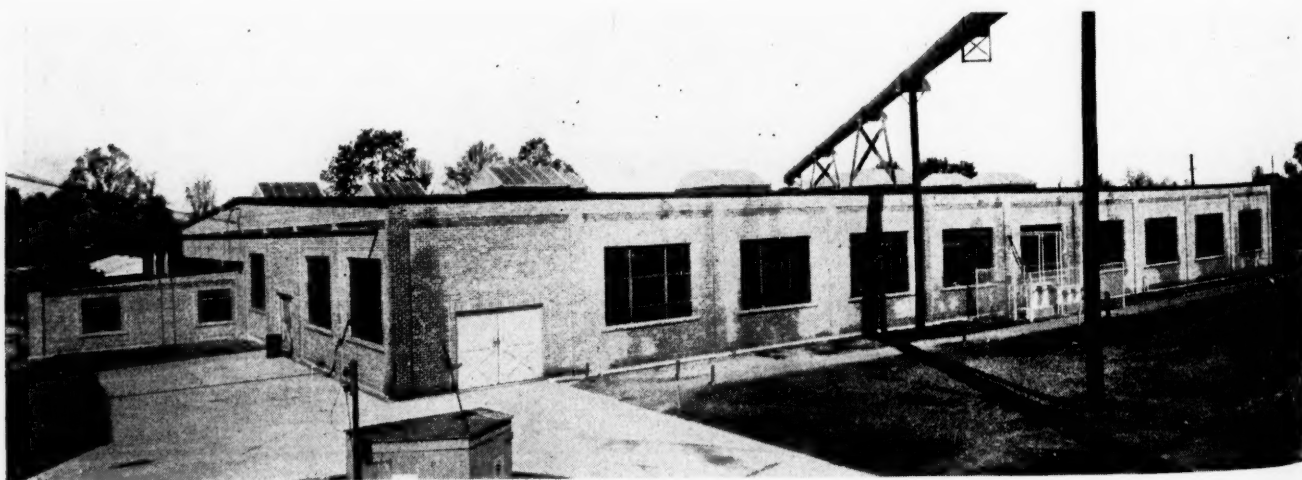
Two of the Battery of Saws Used to Cut Strips Into Squares



Two of the Rip Saws Which Cut Flooring Slabs Into Strips

ard equipment used, including mechanical screw presses, straight-line rip and cross cut saws, and moulders. Carbide-tipped saws are used for the high-speed cutting, which for periods is carried on continuously for ten hours.

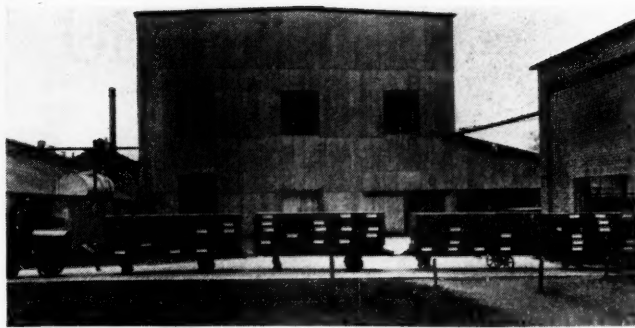
The flooring is produced with tongue and groove. An in-built shock-absorbing feature serves as sound deadener. An-



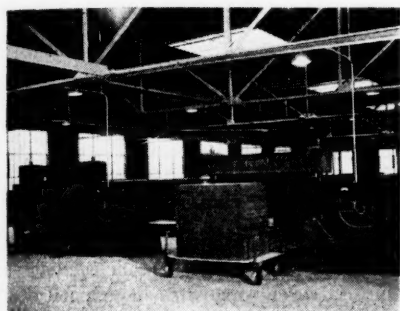
New Cushioned Flooring Plant of Masonite Corporation at Laurel, Mississippi



Inspecting, Sorting and Packing Tables Over Which the Flooring Is Passed Before Being Shipped



Cushioned Flooring, Packed in Cartons, and Being Transported From Flooring Plant to Main Storage Building



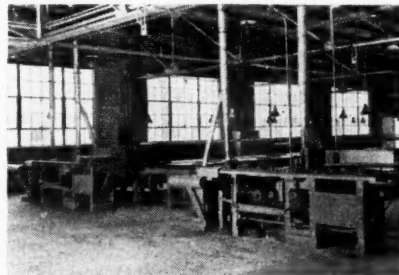
Electrically-Driven Presses

other feature is the three sizes of reversible squares, light brown on one side and walnut color on the other, and allowing for attractive designs of flooring effects. In addition to six, nine and twelve-inch squares, the material is manufactured in border strips 6 by 48, 9 by 48 and 12 by 48 inches; all of these can be laid on cement or wood under-

flooring and glued or nailed in place. Use as a flooring or a floor covering is optional.

In the process of producing the new flooring a ply of natural "Tempered Presdwood" and a walnut dye "Tempered Presdwood" are applied on each side of a layer of Masonite "Quartrboard," the latter being a resilient insulator. After laminating and seasoning, the material is cut into squares or strips, which in turn are automatically conveyed to moulder machines where the edges are grooved and beveled. Specially designed machines then insert the tongue strips. Each piece is carefully inspected throughout the various operations.

Masonite, the material from which the flooring is fabricated, is made by utilizing the slabs and edgings formerly sent as worthless by sawmills to the trash burners, as well as second growth timber. The grainless fibre boards made by the Masonite process are now being used



Two Spline Shaping Machines

for insulation, wall-board, counter tops, concrete form making, boat building, home and office paneling, etc. Products of the Masonite plant, in addition to the Cushioned flooring, include Masonite insulation, Quartrboard wall-board, and Presdwood panelling. Introduction of the new type flooring is one of several important steps in the development of the Masonite Corporation, which has expanded seven-fold in four years.

## BIDS ON AUDITORIUM

**\$3,700,000 Available for St. Louis Municipal Structure**

St. Louis, Mo.—To determine how far \$3,700,000 of bond funds will go toward the erection of a proposed city auditorium, President Kinsey of the Board of Public Service announces that unit bids will be received for construction. Bids will be taken on approximately 12 units, covering the entire construction, and contracts probably awarded for as many units as available funds will take care of. It had been planned that only the northern unit of the building, consisting of an auditorium and committee rooms, would be erected at this time, but a drop in building material prices encourages officials to believe that more than this can be built. In addition to the northern half, it is now thought the first floor of the southern half, which is to contain

extensive exhibit space, may be built, and perhaps the entire exterior of the southern half, which will house the arena. This would give the auditorium a finished appearance from the exterior. Bonds in the amount of \$5,000,000 were provided for the construction of the building, but more than \$1,000,000 was expended for the site. Plans for the structure were prepared by the Plaza Commission, Inc., St. Louis.

## \$350,000 Dallas School Plans

Dallas, Tex.—Preliminary plans are in progress for the first unit of a proposed \$350,000 Long Junior High School to be erected in the Trinity River section. This unit will contain about 10 class rooms, auditorium, gymnasium and lunch room facilities. Bryan & Sharp are the architects and R. C. Jameson, structural engineer, both of Dallas.

## New Orleans Ink Factory

New Orleans, La.—Plans have been made by the Howard Flint Ink Company, Detroit, Mich., for the construction of a plant in this city to manufacture a complete line of inks in all colors. Distribution of the product is intended for Louisiana, Mississippi, Georgia, Alabama, Florida, Central America and South America. Initial annual production is expected to reach a value of \$250,000. The plant building will be a one-story structure of concrete, brick and steel, to provide 15,000 square feet of floor space. W. C. Ray, maintenance engineer of the company, who was in New Orleans with Howard Flint, president, to arrange details for establishing the plant, will probably return to supervise the installation of mechanical equipment. The Flint company operates branch plants at Indianapolis, Houston and Nashville.



# \$2,500,000 Thread Mill

**T**HE new mill of the Clark Thread Company which has been under construction on a tract of nearly 1000 acres at Austell, Ga., near Atlanta, will be operating at full capacity by the end of February. According to present plans of officials at Newark, N. J., headquarters of the company, it is the first unit of what will eventually become the country's largest thread plant. Production at the plant will be shipped on reels to Newark for finishing. The mill has approximately 41,000 ring spindles and 24,000 twister spindles, with all necessary preparatory machinery for production of high-quality sewing thread. It is estimated that the buildings involved an expenditure of \$1,000,000 and equipment \$1,500,000.

The central building, three stories high, measures 135 by 495 feet. It is of standard fire underwriter construction, consisting of steel frame side walls of frame construction and brick fire walls. The only outside ornamentation is a small amount of limestone trim, used on the stair towers as well as for coping, sills, etc. On the inside a glazed brick wainscote has been used. Bricked-in columns are of steel, exposed columns of cast iron. A maximum amount of steel sash in the side walls provides good natural lighting. Stair towers are located in the front at each end of the building and comfort towers, elevator towers and repair shops are at the rear. In the rear of the mill is a cotton warehouse, two stories high, and 100 by 200

feet. A railroad siding serves the warehouse at the second floor level, steel chutes being provided to handle cotton bales to the first floor.

Opening, picking, drawing, spinning and twisting machines have individual motor drives. All other machinery, with the possible exception of Foster winders, is driven in groups with V-belt drives. In the card room line shafts are driven with Tex-rope drives. Spinning and twisting frame motors were furnished by the Diehl Mfg. Co., Elizabeth, N. J. All belt drive equipment and small transformers were supplied by the Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Electric power is purchased from the Georgia Power Company, Atlanta. The main cut-in to the mill is from the substation transformer through an underground tunnel to the main switchboard. All wiring in the plant is in rigid galvanized conduit. The switchboard regulators and motor control equipment were furnished by the General Electric Co., Schenectady, N. Y.

The mill lighting system consists of 300-watt Glassteel diffusers, mounted 14 feet above the floor and spaced about 16 feet on centers. Wiring and electrical equipment was installed by Huntington & Guerry, Greenville, S. C.

High-duty American Moistening Company humidifiers are used throughout the mill. Heating is by Grinnell Thermalier unit heaters. In the waste and opener rooms pipe radiation is used.

The boiler house measures 30 by 45 feet. It is of brick and steel construction, having been so erected as to facilitate future expansion. Initial installation consists of two Stirling boilers of 150 horsepower each, supplied by Babcock & Wilcox Co., New York. A feed-water heater and two boiler feed pumps were made by the Worthington Pump & Machinery Corp., New York. Bailey regulators control the feedwater. There is a radial brick smokestack, erected by the Alphons-Custodis Chimney Construction Co., New York, with a capacity for twice the present boiler installation.

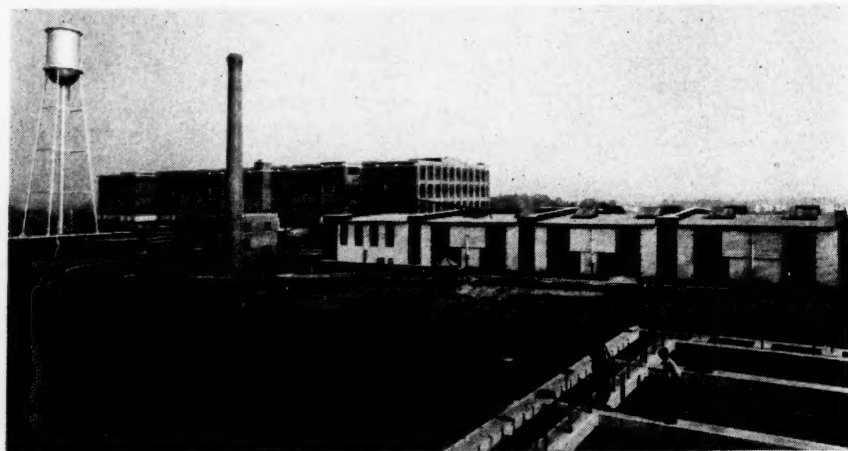
The fire protection system includes a concrete reservoir with a capacity of 500,000 gallons, located in the mill yard. Also, there is an elevated fire protection tank of steel with a capacity of 150,000 gallons, erected by the R. D. Cole Mfg. Co., Newnan, Ga. A motor-driven fire pump is housed in a brick structure.

The source of water supply is Sweetwater Creek, about three-quarters of a mile from the mill. The raw water pumphouse is located on the creek, water being pumped to the filter plant in the mill yard. The pumping station and filter plant are of concrete construction. A laboratory, completely equipped for testing water, is a feature of the water-treatment plant.

The mill and village sanitary sewerage is handled by a modern sewage-disposal plant, comprising a two-story, reinforced concrete, Imhoff settling tank, equipped with a screen chamber.

The mill village consists of 59 operatives' houses, of which 16 are duplex, providing accommodations for 75 families. Interior walls and ceilings are plaster on Celotex, providing insulation against heat and cold. The houses are covered with asbestos shingle roofs; gutters, downspouts and flashing are of copper. All houses are equipped with bathrooms and domestic hot water heaters; they are completely wired for electric lights and have an ample number of baseboard receptacles. Westinghouse electric cooking ranges are provided throughout the village.

The streets are of bitulithic construction, with curbs and gutters of concrete. The street-lighting system consists of units of the Novalux type, mounted on



Rear View of New Mill at Austell, Ga., Showing Boiler Plant, Cotton Warehouse and Water System. Mill Village Is Located in Right Background

Bishop-Crook brackets, on galvanized steel poles.

J. E. Sirrine & Company, Greenville, S. C., were engineers for the entire project. A. K. Adams & Co., Atlanta, were general contractors for the main mill and manufacturing buildings. The Fiske-Carter Construction Co., Greenville, were contractors for the village houses. The Grinnell Co., Charlotte, N. C., and Providence, R. I., were contractors for the heating, humidifying and power piping. W. A. Briggs, Greenville, was contractor for the village paving, underground sewer and water lines.

Among the subcontractors and firms that furnished materials in connection with the contract of A. K. Adams & Co., are the following:

**Sand**—Allon Sand Co., Fort Valley, Ga.  
**Slag**—Birmingham Slag Co., Birmingham, Ala.  
**Cement**—Atlas Portland Cement Co. and Southern Cement Co., both Birmingham  
**Brick**—Dalton Brick Co., Dalton, Ga.  
**Reinforcing Steel**—Jones-Laughlin Steel Co., Atlanta, Ga., and Pittsburgh, Pa., and Gulf States Steel Co., Birmingham  
**Limestone**—Ingalls Stone Co., Bedford, Ind.  
**Granite**—E. H. France Stone Co., Macon, Ga.  
**Tile**—Atlanta Tile & Marble Co., Atlanta  
**Lumber**—J. M. Griffith Lumber Co., Holopaw, Fla.  
**Maple Flooring**—Holt Hardwood Co., Oconto, Wis.  
**Structural Steel**—McClintic-Marshall Corp., Pittsburgh, Pa.  
**Miscellaneous Iron**—Cole Iron Works, Atlanta, Ga.  
**Cast Iron**—Rome Machine & Fdry. Co., Rome, Ga.  
**Steel Sash**—David Lupton's Sons Co., Atlanta, Ga., and Philadelphia, Pa.  
**Glass**—Pittsburgh Plate Glass Co., Atlanta, Ga.  
**Metal Doors**—Art Metal Construction Co., Birmingham  
**Roof and Sheet Metal**—L. M. Leathers, Athens, Ga.  
**Tin Clad Doors**—Industrial Equipment Co., Atlanta  
**Elevator Doors**—Peele Company, Atlanta  
**Glazed Tile**—National Fireproofing Co., Birmingham  
**Painting**—Merrill P. Wilson, Atlanta  
**Glazing**—Rippy Bros. Co., Greenville, S. C.  
**Millwork**—Willingham-Tift Lbr. Co., Atlanta  
**Toilet Partitions**—Atlanta Sheet Metal Works, Atlanta  
**Cresoted Lumber**—Southern Wood Preserving Co., Atlanta  
**Z.M.A. Treated Lumber**—Eppinger & Russell, Jacksonville, Fla.

Material firms and subcontractors connected with the contract for erection of the dwellings by Fiske-Carter Construction Co., include:

**Lumber**—Bright-Brooks Lumber Co., Atlanta, Ga.  
**Shingles**—Johns-Manville Co., New York, and Phillip Carey Mfg. Co., Lockland, Cincinnati, O.  
**Sheet Metal Work**—Ramseur Roofing Co., Greenville, S. C.  
**Miscellaneous Building Materials, etc.**—Campbell Coal Co., Atlanta, Ga.  
**Paint**—F. J. Cooledge Co., Atlanta, Ga.; L. Sonneborn Sons Co., New York; U. S. Gutta Percha Paint Co. and Sherwin-Williams Co., Cleveland, O.  
**Brick**—Merry Bros., Augusta, Ga.  
**Electrical Work**—Huntington & Guerry, Greenville, S. C.  
**Millwork**—Barnesville Planing Mill Co., Barnesville, Ga.  
**Plumbing**—J. A. Moon Co., Greenville, S. C.

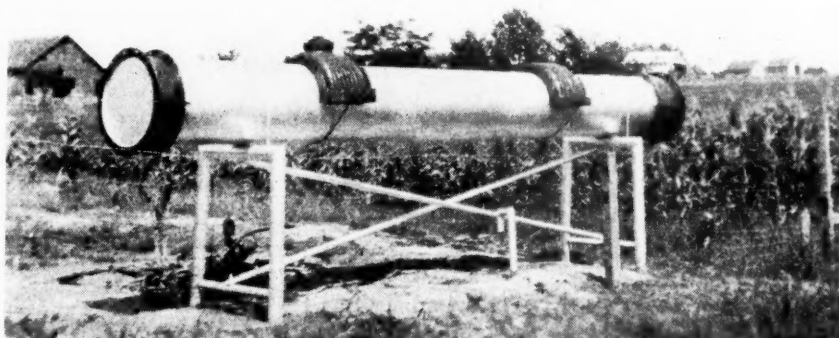
## Spares for Pipe Line Repairs

Specially designed racks containing extra pipe and fittings are used to facilitate the making of emergency repairs along the many miles of main gas pipe line and the lateral system of the Panhandle Eastern Pipe Line Co. of Kansas City, Mo. Located at the gate valves, which are placed every eight miles in the line, these racks support an extra joint of pipe, one long sleeve, one short sleeve and one split sleeve. The long and short sleeves, in addition to being available for repair work, serve also to hold on the blind discs used to seal each end of the pipe. These couplings are tack welded to prevent theft. Inside of the pipe are placed the bolts for the sleeves and nipple, the gate valve and bull plug, the size of the latter three being determined by the opening of the split sleeve.

To keep the coupling rubbers for the sleeves in good condition, a joint of small pipe is placed in the ground for

the purpose, since it would be impracticable to store the couplings in the pipe in the rack, because the rubber would deteriorate. A 42-inch length of 6-inch or 8-inch pipe is used, and all but about six inches is placed vertically in the ground. Below a perforated plate, placed about eight inches from the bottom of the pipe, water is stored to keep the rubbers inserted above the plate in a damp condition. The top of the container is closed and locked.

The racks, entirely welded, are built of 4-inch and 2-inch pipe. The extra length of pipe is at truck bed elevation to permit easy loading. As the pipe line of the Panhandle Eastern system extends for a considerable distance, and in some places traverses country inaccessible not only in wet weather but in dry weather as well, the emergency pipe stands make available within reasonable motor trucking distance the materials for fixing almost any trouble that may develop.



Such a Section of Pipe, With the Fittings Inside It, Makes Possible Emergency Repair Work in Short Order

## Southern Pine Association

The 17th annual convention of the Southern Pine Association, H. C. Berckes, secretary-manager, will be held at the Roosevelt Hotel, New Orleans March 21, 22 and 23, the first day to be taken up with meetings of the board of directors and committees. General sessions of subscribers will be held on the remaining two days. A program of unusual importance will be prepared, it is announced, not only to manufacturers and distributors of Southern pine, but one which will have a bearing on the future of the lumber industry. The coming convention will be the first one since the old North Carolina Pine Association

was dissolved and its members became subscribers to the Southern Pine Association.

## Cotton Seed Loan Collections

Warehouse receipts for \$3,132,630 worth of cotton, held as collateral for loans, were reported to the Federal Seed Loan Office of the Department of Agriculture in the week ended January 29, bringing total collections on 1931 seed loans to farmers to \$21,493,368, the latest report of the office shows. Cash collections for the week were \$314,342. The receipts raised the per cent of 1931 loans collected from 38.1 to 45.5.

# Industry's Interest in Rural Roads

**T**HE question of the need for hard surfaced highways to facilitate transaction of the nation's business is no longer debatable.

Every automobile, every truck that leaves the assembly line is an added argument for increasing highway mileage. Every motorist, pleasure-bent on a Sunday morning, appreciates the need for an adequate hard-surfaced highway system. Every traffic manager of our industrial concerns, intent on reducing operating costs, appreciates that need. Every farmer, separated from his markets by roads that are relics of ox-cart days, even more grimly appreciates it.

To the credit of the nation it can be said that in response to the widespread demand for good roads a most amazing record of accomplishment can be shown. At the beginning of the century I am told there were ten miles of concrete roads in the United States, whereas today there are more than 53,000 miles of this type of highways, while the public investment in motor vehicles and in roads and streets today is placed at considerably more than the value of railroad tracks and rolling stock.

No one can say, however, that we have reached the saturation point in construction of hard-surfaced highways. The record shows that there are some 3,000,000 miles of country road, of which only some 700,000 miles have been surfaced. Of the 700,000 miles, about 200,000 are known as state highways while the 500,000 remaining miles are roads of local use. And the remaining 2,300,000 miles of country road still exist in the dusty, muddy, rutted, impassable state tolerated only in primitive stages of civilization.

Quite a fortune in public funds has been expended in building our road system as it stands today. In the years between 1914 and 1928 this sum totaled close to \$12,000,000,000.

The Federal Government has been most generous in the aid it has given to the hard road movement. During the past year the regular Federal aid appropriation of \$75,000,000 was increased to \$125,000,000 and, in addition, an emergency fund of \$80,000,000 was advanced to the states to be repaid over a period of years.

In the distribution of these vast funds,

By  
**M. S. WINDER**

Executive Secretary,  
American Farm Bureau Federation,  
Chicago, Ill.

a proper national policy would be one founded on the principle of equal benefits to all. In the early stages of any road building program emphasis should be placed on construction, first, of adequate trunk line highways, to be followed by further and more extensive construction of secondary or feeder roads. For years national attention has been concentrated on getting the trunk lines built, to the neglect of the side road, with the result that we now have a most peculiarly unbalanced system of highways, as can be demonstrated by statistics.

## Only One-Twelfth of Farms on Year-Round Roads

Investigations conducted by the American Farm Bureau Federation two years ago brought forth the fact that out of 6,250,000 farms in the United States, less than 500,000 are located on roads which are useable the year round. Another 1,988,704 farms are located on dirt roads that are improved by grading and draining, and thus made more useable, but still practically impassable at certain seasons of the year. And a third group of 2,747,732 farms are located on unimproved dirt roads over which it is impossible to drive at certain times.

The progress in road building in the two years intervening since these figures were collected has undoubtedly changed the totals in some slight measure, but the fact still remains true that a vast proportion of our rural population is endeavoring to conduct the nation's basic industry, agriculture, over highways that are reminiscent of the ox-cart and the "one-hoss shay."

Obviously the principle of "equal benefits to all," has not been applied to the roads most used by farmers. And this explains the American Farm Bureau

Federation's interest in the farm-to-market road movement.

Since 1919, when the Federation was created, it has assumed leadership in every movement for the advance of agriculture. Transportation is vital to the success of farm operations and the Federation has, therefore, thrown the full weight of its prestige and authority into creation of sentiment favoring farm-to-market roads. We are determined to see that the greatest possible benefits are secured for the people most affected, from the vast sums, national, state and local, available for highway construction.

This position of the Federation was clearly set forth in a resolution approved at its national convention held in Chicago, in December, 1929. It was expressed as follows:

"We are at the point in the development of transportation facilities in our nation which requires not only more federal appropriations to continue and finish the federal-aid system of roads now under construction but to expand federal financial participation in the building of secondary or farm-to-market highways. \* \* \* Highways are now arteries of commerce and must be constructed largely at the expense of the nation as a whole and not wholly at the expense of local or state taxing units. The states are urged to extend their supplemental rural roads programs by allotting more of the gasoline and vehicle taxes to farm-to-market highways."

The manufacturer may not appreciate fully just what roads, useable the year round, mean to the farmer. He may fail, also, to realize that his relations to agriculture through rural roads have a direct bearing on his own financial welfare.

## Impassable Roads Exact Heavy Toll of Farmers

Farmers, however, have learned that their lack of year-round farm-to-market roads is costing them heavily. Due to the fact that the farmer is forced to move his crops to market in periods when dirt roads are hard and dry, it often happens that seasonal market gluts occur, with consequent lowering of prices paid for farm products, thus reducing agriculture's buying power.

Lack of adequate roads prevents rural fire protection; adds cost to rural med-



ical service, and bars proper development of the rural school system.

Local merchants in rural America are probably first in line to feel a reflection of the handicap, for during the months of mud farmers find it impossible to get to town for their trading, and rural business stagnates.

Loss of time required to traverse an unimproved road may be charged as an indirect "mud tax" on the farmer. Figures show that on the average an amount of hauling which can be done by a truck in 297.2 hours, requires 588.6 hours of man labor and 1,177.8 hours of horse labor. On this basis, the use of trucks saved an average of 290.8 hours of man labor per farm. If the cost per hour is figured out, it can be seen that unwittingly a considerable amount is paid in the intangible mud tax due to muddy roads which forbid use of modern motor facilities.

### Maintenance Cost High on Low Type Highways

Still another addition to the mud tax comes from waste of public money expended to maintain dirt roads. An Indiana figure reveals that \$2,800,000 was spent in one year to maintain that state's 31,000 miles of unimproved township roads. That was an average of \$89 per mile. Yet every farmer knows that after this spring's breakup the result of this expenditure will be practically zero.

And if the manufacturer in some distant industrial center thinks that bad roads have no immediate relation to his business let me invite consideration to still another aspect of this problem of what mud roads cost.

Out in Iowa where not so many years ago mud roads were a very acute problem, a college professor has conclusively established that the cost of driving an automobile over an unimproved dirt road is 2.06 cents per mile greater than the cost to drive it over a high-class concrete pavement. Federal road authorities use a more conservative figure of 1.5 cents as the increased operation cost, in comparing the two types of road ways.

From Cornell University comes the additional fact that farmers travel an average distance of five miles to market, so that if forced to travel an unimproved dirt road the mud tax for one round trip in a motor driven vehicle would be 15 cents. If made daily, the year's total mud tax on this one item would be well over \$50. This is no exaggeration, as the New York state college study developed the fact that farmers living on dirt roads drove their cars an average of 2700 miles a year. At 1.5 cents per mile their mud tax would thus be \$40.50.

One must grant that not all farm travel by motor vehicle in these days is done over dirt roads. It can be seen, however, that for the approximately 5,000,000 farmers who live on dirt roads, the extra cost of from 1.5 cents to 2.06 cents to operate a car over an unimproved road is in the aggregate an indirect waste of a tremendous sum.

Divided among the 4,746,436 farmers living on dirt roads, who are paying the penalty, it may not mean much to the individual. Collectively, however, it means a tremendous reduction in agriculture's purchasing power.

### Farmer's Purchasing Power Reduced By "Mud Tax"

It means a loss which must be sustained and absorbed by the capital invested in many manufacturing industries. Textile manufacturers suffer. So do the shoe makers, the furniture folks, the farm equipment people, the steel mills, the mining industry, and so on, almost ad infinitum, the course of that needless waste of farm money can be traced.

If it were at all possible to eliminate this differential in the cost of operating a motor car over an unimproved and an improved road, the increased farm buying power of the nation would be immediately appreciated in the industrial world. Certainly it is an ideal to keep in mind and the co-operative interest of all groups could well be directed to solving the problem.

Never before has there been greater need for intelligent group action by public-spirited leaders to control expenditures of public road building funds, to make them return the fullest measure of value to those who depend on the roads for the conduct of their business.

To encourage such intelligent action the American Farm Bureau Federation worked out a plan for organizing Farm Bureau Road Planning Committees in every one of the 1850 county units composing our organization. These road committees see, first, last and always, that from the vast sums available for highway construction, the greatest possible benefits are secured. For a dollar's worth of road funds the committees demand that a dollar's worth of acceptable road construction results.

The only way this can be accomplished, we have learned, is to draft a plan and then adhere to it. This plan must be intelligently developed, after consideration of various vital factors, and it must be drawn, not to satisfy present needs alone, but with a forward look into the future, so that those who come after will profit from the foresight

of their predecessors. And it must be a plan that can be progressively constructed through a term of years.

The idea is not new in other phases of social activities. City planning commissions, zoning commissions, and similar undertakings are familiar to all and their achievements in many localities have been outstanding examples of co-operative civic enterprise.

### Campaign for Sound Road Improvement Program

As the basis of our county Farm Bureau Planning committee's work we have insisted on a comprehensive survey of the county's present road facilities and its future requirements. The survey must precede all other action and must take into consideration even the least-used piece of road. The survey is not costly and this cost will in fact be justified by the saving to follow when the committee plan is carried out.

The factors which must be known are not numerous. Population and its distribution are important with consideration given to probable future trends of growth. Agricultural tonnage and distance to market or shipping point are other matters on which data is collected. Natural resources, such as oil, mineral and lumber supplies, and industrial and manufacturing activities are still other items for investigation, along with vehicle registration and type of vehicle used in marketing or shipping. Thought is given to the use of the roads for future fire protection service from a central county station. And, as the trend of rural education is towards consolidation of the smaller schools, the road study must include consideration of the problem of collecting the children for convenient transportation to the central school.

With this data before them, the road committees work out the road requirements of their counties. From state or federal authorities information is obtained as to types of roads best adapted to carry the traffic expected, together with approximate costs of construction and maintenance. Supplementing this by knowledge of finances available and what road building materials are to be found locally, the committee can evolve a plan which when carried out, will assure the maximum economy and which will provide roads, not only adequate for present requirements, but of such a nature as will allow future improvements with the least possible loss of capital investment.

The American Farm Bureau Federation is placing almost the entire stress of our effort on construction of county

and township roads, not because we do not consider trunk lines important, but because other agencies and organizations are devoting their efforts to extension of trunk lines. We are suggesting also that in its operation, the Farm Bureau committee invite the co-operation of local business groups, chambers of commerce, luncheon clubs, public officials and all who in any way have an interest in the roads of their communities.

Some suggestion of what our plan has accomplished may be of interest and perhaps prompt others to endeavor in similar lines. In one county, the highway engineer was determined to spend all the tax money available for roads on a high class road in a section which was not so badly off as other sections. Had he been permitted to pursue this course there would have been no money available for use in an area where the need for better roads was most imperative. The Farm Bureau's county road planning committee stepped in, met with the Board of Supervisors, and followed this with public forums for discussion of the whole matter throughout the county. The result, naturally enough, has been that the money is being spent where it is most needed and more farmers are benefitting.

In southern Nevada two counties found themselves facing a very difficult problem. A connecting link in a state highway had been designated to join two towns through a piece of barren desert country in which there was absolutely no farming. Quite a number of non-agricultural interests were in favor of this road because it was the shortest route. The two county Farm Bureau road committees realized, however, that agriculture had an interest in the matter perhaps paramount to any other group. Accordingly, the local farmers called for help from their state organization and the national Federation, with the result that the new road was ultimately laid through a fertile agricultural valley and farmers were furnished a splendid outlet to their markets.

We are hearing much in these days of the need for expansion of our national road building program for the relief of unemployment. It is a splendid idea and meets with the complete approval of this, the largest of the national farm organizations. We are asking only that in all the planning the long time view be insisted on by all local interests, and in this endeavor industrial and manufacturing groups can have an important part.

America is on the eve of a tremendous road development era, perhaps the greatest in our history. It must be properly guided and encouraged into wise courses, not alone on behalf of agriculture, but of industry as well.

## New Transparent Wrapping Material From Cotton

The Eastman Kodak Company has begun the production of "Kodapak," a transparent wrapping material made from cotton. Most transparent wrapping material already on the market is derived from wood fiber, rather than from cotton. Kodapak is manufactured from cotton cellulose acetate, which also is the principal material entering into production of an important type of film (safety film) made by the Eastman Company and in the cellulose acetate yarn which the Tennessee Eastman Corporation makes for the textile trade.

Although film and the new Kodapak are manufactured at Rochester, N. Y., all of the cellulose acetate used to manufacture these commodities as well as for the yarn is made by the Tennessee subsidiary at Kingsport.

Kodapak has a brilliant, glass-like clarity, and a silvery appearance when

crumpled in the hand. Its limpness permits it to fold easily and neatly around corners of packages and it can be easily cemented in closing packages. The company states that tests show that Kodapak withstands the action of water without softening or distortion of shape. It is highly transparent and colorless, does not have a tendency to become brittle in extreme cold and it will withstand high temperatures without coloring.

Direct development of the new product has occupied more than a year and a half, although the company first began experimentation with cellulose acetate, the basic material of Kodapak and other products, in 1907. Cotton, in the form of cellulose nitrate, is used also by the Eastman Kodak Company in manufacturing all types of film that are not made of cellulose acetate.



Part of Tennessee Eastman Corporation's Development at Kingsport, Tenn., Including New Cellulose Acetate Plant

### Farm Population Gains

An increase of 200,000 in the nation's farm population was reported in 1930, states the American Cotton Cooperative Association. More than 5,000,000 acres of public lands were assigned last year, an increase of approximately 50 per cent over 1927. Industrial enterprises which until lately have felt they must be located in cities are now finding that it is better to build in small towns, or in the country.

Farm land that will keep a family in good food, and bring in enough cash to

get by, can be had as low as \$10 and \$25 an acre, it is stated. Further:

"The famed black lands of Central Texas can occasionally be bought today for \$40 to \$50 an acre. But the new generation of farmers will not be satisfied with things that satisfied the older generation. They want automobiles, entertainment, the conveniences that have previously been associated with city life only, things that must be bought with money, things that cannot be produced on the farm. The new life of the farms calls for greater cash income. This means the upbuilding of business organizations through which farmers can convert their products into cash on a fair basis."

# Signs of Better Business

COTTON GOODS SALES throughout the country in 1931 totaled about 4 per cent in excess of the combined production of all mills, and mill stocks on hand were reduced 20 per cent below the point at which they stood at the end of 1930, according to Sydney P. Munroe, assistant to the president of the Cotton Textile Institute. Mr. Munroe emphasized that the effectiveness of the program for promotion of cotton is shown in the fact that during 1931, when other industries were operating at 30 to 70 per cent of capacity, cotton consumption was 87 per cent of the average for the preceding ten years.

READING COMPANY has ordered 30 multiple-unit rail motor passenger cars at a cost of \$1,500,000. The cars will be built by the Bethlehem Steel Company, the motors by General Electric Company, and the Westinghouse Electric & Mfg. Company will supply gears and controls.

STUDEBAKER CORPORATION, A. R. Etskine, president, states that registrations of Studebaker trucks in 1931 increased 127 per cent over 1930.

ELECTRIC HOSE & RUBBER CO., Wilmington, Del., after showing a volume loss of 30 per cent, reorganized its selling methods and during the first two months of the present fiscal year was able to show a profit. Better grades of products were stressed in place of cheaper prices. C. D. Garretson in commenting on the work of the company says, "Our salesmen no longer talk about the volume they are selling, for they are prompted to think about their work in terms of profit."

AMERICAN ROLLING MILL COMPANY, Ashland, Ky., with the starting of a blast furnace, has put 100 additional men to work, according to an announcement by Frank E. Vigor, general works manager.

THE ALCOA, TENN., plate mill of the Aluminum Company of America is reported on full time operation with three 8-hour shifts.

GALVESTON WHARF COMPANY, Galveston, Texas, reports a net operating income for 1931 of \$517,623 compared with \$429,364 in 1930.

STEEL MILLS resume operations in the Monessen, Pa., district. American Sheet and Tin Plate Co. will give employment to about 300 tin plate workers who have been idle for several weeks. The Pittsburgh Steel Company and the Page Steel & Wire Company also plan for increased operations.

AMERICAN CAN CO. has made arrangements with the U. S. Steel Corporation for its usual amount of tin plate to meet 1932 requirements. The corporation has been furnishing over a period of years an average of 400,000 tons of tin plate and it is estimated the 1932 contract will be approximately \$35,000,000.

WINDER MFG. CO., Winder, Ga., in 1931 had its biggest year since the company was established in 1916, cutting 4,500,000 yards of goods, which were made into overalls and sold. The 1931 business was three times that of 1930.

GEORGE A. FULLER CO., a construction subsidiary of the U. S. Realty and Improvement Co., started 1932 with unfinished contracts aggregating \$38,218,000, one of the largest backlogs in the company's history, according to President L. R. Crandall.

PRUDENTIAL INSURANCE CO. reports that the paid-for new business, including group insurance, which amounted to \$2,784,000,000 in 1931, was the largest in the history of the company.

KELVINATOR CORPORATION business continues on an upward trend, states H. W. Burritt, vice-president in charge of sales. Shipments for January were 23 per cent above January, 1931, while orders received were 30 per cent in excess of January, 1931, orders. The company entered February with more than double the unfilled orders on hand a year ago.

COTTON EXPORTS from Galveston and Houston, Texas, during January were considerably more than the quantity exported in January, 1931. Much of this cotton was sent to the Far East.

BALTIMORE & OHIO RAILROAD has recalled 175 furloughed men to work at the Keyser Shops on the Cumberland division.

FOUR WHEEL DRIVE AUTO CO., Clintonville, Wis., entered 1932 "with the largest volume of commercial orders on our books in the history of the company, necessitating operation of all machine departments 24 hours a day full five and a half days a week," states W. A. Olen, president and general manager. All other departments are on a full daily schedule. The FWD Company has increased its selling and advertising program for 1932, and Mr. Olen reports its market survey indicates busier times than in 1931.

THE ALL STATES LIFE INSURANCE COMPANY, Montgomery, Ala., reports an increase of \$2,103,000, or 11 per cent, of insurance in force and more than \$250,000 in assets for 1931 over 1930. Gains in premium income, investment income and surplus also were recorded. Total insurance in force is now \$23,915,000, including \$2,736,000 of accident insurance. The company recently increased its capital to \$500,000.

COLUMBIAN IRON WORKS, Chattanooga, Tenn., will provide employment for 50 persons on resumption of operations by its foundry department.

MISSOURI-PACIFIC LINES, L. W. Baldwin, president, announces that a total of \$16,918,000 was invested in 680 new industries established last year in territory served by its lines. To serve these new industries it was necessary to construct 171 spur tracks, totalling 42 miles in length.

TEXAS CHARTERS for new enterprises issued by the Secretary of State during 1931, while 3.6 per cent under 1930 in number, showed a gain in total capitalization of about 16 per cent. The 2116 concerns incorporated in 1931 were capitalized at \$86,096,000. There were 463 oil companies, 36 public service, and 247 manufacturing enterprises. It is significant that the 454 out-of-state corporations granted permits to do business in Texas equalled the all-time high set in 1922.

ST. LOUIS INDUSTRIAL BUREAU announces that in January 11 new industries were established and 10 existing industries expanded, giving employment to 318 additional workers.



# The Orient an American Market

THE material American stake involved in the Far East runs far beyond the \$620,000,000 at present invested in China and Japan and covers a potential expansion of Oriental trade tremendous in amount. Of all American industrial production, less than 10 per cent is exported, and the Far East markets afford opportunity for an appreciable increase.

American exports to China, Hong Kong, Kwatung and Japan ran to \$236,435,000 in the 11 months ended November 30, last, the latest figures available at this writing. Imports from those traders in the same period aggregated \$256,455,000, the anti-American balance being created by an excess in value of imports from Japan over exports to that country. In detail, the figures of the Department of Commerce for the 11 months show:

	Exports	Imports
China .....	\$84,175,000	\$63,264,000
Japan .....	137,222,000	186,596,000
Hong Kong .....	12,960,000	5,420,000
Kwatung .....	2,078,000	1,175,000

Besides this trade, almost meager in comparison with the latent possibilities, American investments in China total \$175,000,000, with \$444,369,000 in Japan.

Outstanding among the American exports to those markets is cotton. To China, Hong Kong and Kwatung, in the

11 months mentioned, went 682,000 bales, valued at \$30,000,000, or 30.2 per cent of the aggregate value of all exports to those ports. Exports to Japan totaled 1,425,000 bales, valued at \$67,400,000, or 49 per cent value of all the American exports to that country. The nearest approaches to these markets for this great American staple were: Germany, 1,153,800 bales, valued at \$55,950,000; United Kingdom, 654,400 bales, valued at \$30,830,000, and France, 375,800 bales, valued at \$20,795,000. In an aggregate of 4,291,000 bales, valued at \$204,975,000, exported to all the markets aforementioned, 2,107,000 bales, or 49 per cent, went to the Orient, with corresponding percentage in value.

Also conspicuous in the American exports was tobacco, of which China in the 11 months took 130,316,000 pounds, valued at \$13,216,000, and Japan 9,699,000 pounds, valued at \$2,776,000. Cigarettes exported to China numbered 126,886,000, valued at \$349,200.

Under the general head of oil, Japan took 3,289,000 barrels of crude petroleum, valued at \$3,209,000; refined oils, Japan, 124,500 barrels, valued at \$709,600, and China, Hong Kong and Kwatung, 144,500 barrels, valued at \$864,800; illuminating oil, Japan, 355,200 barrels, at \$1,376,600, and China, Hong

Kong and Kwatung, 2,182,000 barrels, at \$6,917,800; gas and fuel oil, Japan, 5,033,800 barrels, at \$4,254,700, and China, Hong Kong and Kwatung, 947,300, at \$857,800; lubricating oil, Japan, 152,900 barrels, at \$1,814,900, and China, Hong Kong and Kwatung, 221,000 barrels, at \$1,507,600.

Iron and steel plates exports in 11 months to China totaled 34,900,000 pounds, valued at \$1,479,000, and to Japan 36,184,000 pounds, at \$1,458,000.

Wheat shipments to China ran to 9,852,400 bushels, at \$4,979,600, with 1,820,000 bushels to Japan, at \$903,600.

Oranges, canned pineapples, condensed and evaporated milk, sardines, cottonseed oil, leather, gum rosin, auto tires, starch, lumber, steel pipe and copper are among other exports to the Orient itemized by the Department of Commerce.

Substantial and gratifying as this showing may be, it is rather to be regarded as an indication of the ultimate potentialities of the Far East markets. Aged in centuries, Japan and China are only on the threshold of modern standards of Occidental living. Decades in time and vast volumes of commodities of many kinds will be required to meet their needs in the progressive development to conditions of comfort.

## Millions of Tung Trees Available

Millions of tung trees, from record bearing, pedigreed parent stock, are reported by the Gainesville (Fla.) Chamber of Commerce to be available at a reasonably low price. Three thousand acres are to be set in new orchards in the Gainesville area, this season.

For American grown tung oil, the Gainesville organization computes a potential market of \$135,000,000. Some production reports in Florida show for one 1900-acre grove a crop nearly four times the volume of the previous year, with a record of 94 per cent oil recovery, compared with 60 per cent in China. Another grove showed an average of 6700 pounds of dried nuts in their shells, per acre, and another reports 4000 pounds per acre. Trees are reported as

producing over 25 pounds of oil, and the price of oil, on a 10-year average to January 1, 1930, was 16.7 cents a pound, in barrels, at New York.

"There never has been a tung crop failure in the Gainesville area, and the Florida oil commands a premium over the Chinese product," says Secretary J. McL. Ridgell of the Chamber of Commerce.

## \$4,500,000 Auditorium Plans

Kansas City, Mo.—Plans for the new municipal auditorium here, for which \$4,500,000 bonds were voted, are now in the preliminary stage. Hoyt, Price & Barnes and Alonzo H. Gentry, Inc., both of Kansas City, are architects for the structure.

## \$1,000,000 Veterans Home

Biloxi, Miss.—The Veterans Administration, Washington, has awarded general contract to the National Construction Company, Washington, at approximately \$532,000, for the construction of a Veterans Administration Home here, and to Rogers & Leventhal, Inc., Chattanooga, Tenn., at \$108,025, for the construction of nurses' and officers' quarters.

Other contracts also were awarded:

**Plumbing, heating and electrical work**—Bryce Plumbing & Heating Co., Florence, S. C., at \$198,634

**Elevators**—Otis Elevator Co., Washington, \$20,248

**Steel Water Tank and Tower**—Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., \$7480

**Refrigerating and ice making plant**—Columbus Iron Works Co., Columbus, Ga., \$13,948.

# Jacksonville,

## A Robust Centenarian

By DALLAS T. DAILY, Industrial Secretary, Jacksonville Chamber of Commerce

WHILE Jacksonville celebrated its one hundredth "birthday," last week, its growth toward the present metropolis of 135,000 alert, loyal, progressive and enthusiastic citizens dates conspicuously from the fire of 1901. More than 30 years later, we now find, after an inventory of our business establishments, somewhat happier conditions than the average for many great cities.

Industrial conditions in Jacksonville are by no means mournful. Our financial institutions, consisting of 10 sound banking houses, with 15 affiliated banks in substantial towns in other parts of the Peninsula, contribute largely to the business life of Florida. Our city has not defaulted on either the interest or principal of municipal obligations and we are enjoying the lowest city tax mil-

lage that we have had in 10 years. The soundness of the banks and municipal finances gives our citizens confidence which causes them to look forward happily through 1932. Our port, of sufficient depth to accommodate ocean-going ships, continues to increase its foreign cargo tonnage.

Search for the reason of this rapid growth reveals that industrial production and distribution are studying every practicable path to market. The traffic of five large trunk line railroads, converging here from nine directions, is coordinated with that of highways, ocean routes, canals and air, thus tending to promote low transportation costs to and from very many points. Commerce with European and Latin American markets is growing rapidly. Our

wholesale business has developed to approximately \$158,000,000, annually.

The various traffic agencies cooperating with the Industrial department and the Traffic and Port bureaus of the Chamber of Commerce are steadily bringing these advantages to the attention of interested distributors, with such result that numerous large concerns have either moved here, established branch warehouses or sales offices, or expanded their activities, at the rate of nearly one each week during the past year. For handling the large volume of goods and for marketing Florida's citrus and vegetable crop, valued annually in excess of \$100,000,000, a large portion of which passes through Jacksonville's terminals, more than 30 railroads and a great number of steamship and truck lines maintain here a highly trained freight traffic personnel.

As a means of continuing the strengthening and growth of its industries, Jacksonville with the cooperation of many agencies is carrying on transportation research work; also, the products of our home industries are being studied and, through cooperation by the district office of the Department of Commerce, markets are being developed for many of the 400 varieties of articles manufactured in our plants. The city strives to keep out undesirable elements, and works to encourage a well rounded, strong, commercial development that will facilitate the operation of enterprises already established and still to come.

There is vast room for expansion. Establishments that will add wholesomeness to our business activities are heartily welcomed. Every consistent assistance is given them to become well located in a community where opportunities for the successful operation of diversified industries are highly attractive.



The Heart of Jacksonville

# IRON, STEEL AND METAL MARKET

## Steel Situation Regarded As Favorable

Pittsburgh, February 15—[Special.]—The steel trade continues to show evidence that fully four months ago it reached approximately its low point in demand, some sort of an "irreducible minimum," leaving little or no room for any change except in the direction of more activity. All told there was a great recession in tonnage, the peak rate of production having been struck in June, 1929. Except for short spurts early in 1930 and 1931 there was continuous and marked decrease to about October 1 last, since when production has been fairly uniform, showing only relatively small variations, there being a dip in the latter part of December with recovery in January, and production so far this month has been at practically the October rate.

The showing is regarded as distinctly favorable and the absence to date of the usual seasonal increase is not particularly disappointing, it being held that in times like these consumers down the line would not anticipate spring requirements as in active times they began doing at the turn of the year. Seasonal increase is still expected.

Official reports of Bessemer and open-hearth steel ingot production make the following showing, in terms of capacity as ascertained for December 31, 1930: October, 27.76 per cent; November, 30.01 per cent; December, 23.58 per cent; January, 26.54 per cent. The present rate is slightly above the January average.

Unfilled obligations of the Steel Corporation decreased in January by 87,203 tons, compared with decreases in the preceding six months averaging 124,000 tons a month, and in that respect the showing was favorable. In seven of the last nine years January showed an increase, this being a seasonal matter, but it had already been thought that the usual seasonal influence would not be felt so early in the year.

A general price stabilization movement in steel has begun and some definite price announcements may be made by sellers this week. The whole finished steel market passed into stabilized condition about the middle of last year and it stayed in that condition for nearly four months, when strips began to weaken, and this was followed by declines in bars, shapes, plates and strips. The declines were not precise in character as prices became irregular besides

declining generally. Some observers have held that these price irregularities discouraged buying, while other observers hold that buyers could not avoid covering necessary requirements and would not buy more no matter what the price condition.

In connection with this stabilization movement mills appear to have abandoned any effort to obtain the old price of 1.60c, Pittsburgh, on bars, shapes and plates, leaving this market quotable at 1.50c flat, but western producers are still talking 1.70c, Chicago. In sheets it is definitely said that there will be an advance, probably to 2.30c for black and 2.85c for galvanized, the market lately having been quotable at 2.15c to 2.25c and 2.75c to 2.80c respectively. An advance in strips is also contemplated. Pipe has shown no variation for a long while and recently advanced prices on wire products are being strictly held although there is little test as jobbers are comfortably stocked by receipts at old prices. Semifinished steel shows another decline, to \$26 for billets, slabs and sheets, bars, Pittsburgh, Youngstown or Cleveland, but this is a secretive market, there being so few buyers, and the price news may be quite belated.

Fabricated structural steel lettings have continued to run light, there being no semblance thus far of a seasonal picking up. The automobile industry has tapered off a little in activity, and farm implement makers are reducing their schedules after a rather fair run, considering all the conditions, in the last four months. Tin plate has been sluggish on account of uncertain canning prospects and the low price of foreign tin plate with the drop in sterling exchange.

## Metals at New Low Figures

New York, February 15—[Special.]—The story of the metal markets is one of lower prices. Copper has sold from first hands in the domestic market at 6 cents per pound, while custom smelters have sold the metal in the foreign market at 6½c, both new all-time lows. Prime western slab zinc has been selling at 2.80c per pound, East St. Louis, also another valley point as far as the records go.

Lead which has been unchanged in price since the middle of December is unchanged officially at 3.75c per pound, New York, and 3.55c, East St. Louis, but a weak tone lies underneath the market because of price concessions made here and there and because of the

extremely cautious manner in which consumers are purchasing. Silver and tin have been quite steady, though at the middle of the week both metals dipped to the lowest levels for several days, silver having sold at 29½c per ounce and tin at 21½c per pound.

Purchasing of all of the metals has been extremely light. However on Thursday when the export price of copper became 6½c the sales for the day were 1500 tons, the best in several weeks. Antimony is quite steady at 6¼c per pound, duty paid, having retained a cent of its rise induced by the Far Eastern hostilities. However the antimony market is very dull and featureless. Quicksilver is unchanged in price, though its quotation is largely nominal in the absence of business.

Automobile production for January is estimated by the National Automobile Chamber of Commerce as 126,500 cars and trucks in the United States and Canada, which is an increase of 2 per cent over December, but a decline of 29 per cent from January of the preceding year. The steel industry is barely holding its pace of 28 per cent of capacity and will not maintain it long unless more orders are forthcoming.

During the week it was announced that the American Can Co. had arranged its purchase of 1932 requirements of tin plate from the American Sheet & Tin Plate Co., subsidiary of the United States Steel Corporation, estimated at 400,000 tons. This is one of the largest consumers of tin plate. The tin plate company has already started up some idle mills to take care of the order, which means a larger consumption of tin.

American tin plate makers have not been forging ahead with production as rapidly as makers in other countries. The reason is apparent, inasmuch as Welsh makers have offered tin plate to American consumers at \$3 per box of 100 pounds as against the American price of \$4.75. Naturally the American makers have not only lost some local business but have found competition unusually severe in the export field.

The American copper industry is considerably concerned with the proposed British 10 per cent import tax on most commodities, which may include electrolytic copper. This would increase the cost of shipping copper to Great Britain \$13 or \$14 per ton. In 1930 Great Britain was the best customer of the American copper producers, taking nearly 90,000 tons.

Such a tariff on copper by Great Brit-



ain would undoubtedly cause the United States to rush through a duty of her own. It is possible that this British tariff uncertainty has been partly responsible for the decline in copper prices during the past week.

New low prices for copper have come at a time when producers have planned two major changes to remedy the situation. Thus the industry has decided to curtail production to 26½ per cent of capacity and Copper Exporters, Inc., have revised their marketing system to improve conditions. The curtailment of production will not be felt until April as it takes about three months for copper to reach the refined stage from ore. Of course if copper prices stay at present levels much longer the entire industry will have to close of its own accord, or because of lack of profits.

The zinc market has been a fickle one. The price rose \$1 per ton on Monday to 2.85c per pound, East St. Louis, though on the next day the price declined by that amount, or back to 2.80c, the low level for all time. By Wednesday demand for the metal began to improve. Zinc continues to be in the best statistical condition among the base metals, yet it has continued to be the weakest from a price standpoint.

Sentiment in the metals was decidedly better on Thursday because of the Glass banking bill which is designed to prevent bank failures. On this day stocks and various commodities advanced in price. Included among the advances were those metals which are dealt in on the National Metal Exchange, where sentiment is more quickly reflected than in the primary markets.

### No Notable Change in Birmingham District

Birmingham, Ala., February 15—[Special].—Industrial activity in this section is but little changed as of a week ago though there appears to be some improved feeling as to future business. So far the additional contracts from railroads and other larger consumers of steel in various shapes have been light. Readjustment of wages, elimination of overhead through elimination of service not absolutely necessary, federal financial assistance and other means of giving aid towards recuperation to the railroads are functioning and will show results.

During the past week, State agricultural and industrial organizations and Alabama government boards held a conference looking to a more helpful interchange and results are expected in this direction. For the past few weeks there has been a little demand coming in from

agricultural sections for wire and wire products besides other flat and small shapes of steel. There has been a little readjustment of prices in steel and further changes are anticipated this week.

Operation schedules show a little change, pig iron production in January was over 90,000 tons, an increase of 9000 tons as compared to the output of blast furnaces in December. Based on ingot production operations of steel mills now are around 53 per cent capacity, Gulf States Steel Company having but two out of six open hearth furnaces in operation and the Tennessee Coal, Iron & Railroad Company having 10 out of 18. Sheet and plate mills are not as active as they have been at times in recent weeks. Structural steel fabricating shops report a little lagging in new business but have still some backlog and anticipate several contracts which will require steel. Connors Steel Company will furnish reinforcing concrete bars for the Miami postoffice. Hardie-Tynes Manufacturing Co. has shipped via Savannah a 15-ton engine built here for a British lumber manufacturing company in Manila, Phillipine Islands.

No business has come as yet to iron and steel concerns of this district as a result of the Japanese-Chinese conflict. In the past few years Birmingham steel rail has moved to Manchuria and also to Japan. Cotton is moving from the immediate Birmingham district for export and ships out of New Orleans are said to be taking much of this product.

The Ensley Works of the Tennessee Coal, Iron & Railroad Company is still operating on reduced schedule, the rail mill making about one-third production. This will be continued, it is learned, as long as there is a little business on the books. Though the operations are not very active, there is a better feeling noticeable with some work being offered labor.

Fabricators of plate steel also report business lagging, and operations of tank works and other tubular products out of steel are at low ebb.

Portland cement manufacturers are hopeful that the next 30 days will see improvement in their line of business with possibilities of government development of roads throughout the country. The plant of the Universal Atlas Cement Co. at Leeds, Ala., will resume production early in March.

Coke manufacture is being held at 50 per cent normal. More than 500 ovens out of 1390 at by-product coke works of the district are in operation.

Cast iron pressure pipe shops have received a few lettings recently but operations are still around 40 per cent capacity. The recent reduction of \$2 per ton, six-inch and over sizes now being quoted at \$32 to \$33 per ton, has

been well broadcasted. Pipe manufacturers here are manifesting interest in the spring meeting of the American Gas Company which will be held here in April, among other features of the program to be an inspection of cast iron pipe manufacture.

Pig iron and iron and steel scrap quotations in the Birmingham district are as follows:

#### PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$11.00; No. 1 foundry, \$11.50; iron of 2.75 to 3.25 per cent silicon, \$12.00; iron of 3.25 to 3.75 per cent silicon, \$12.50.

#### OLD MATERIAL

Steel rails .....	\$10.00 to \$11.00
Steel axles .....	12.00 to 13.00
Iron axles .....	12.00 to 13.00
Heavy melting steel.....	7.00 to 7.50
No. 1 cast.....	8.00 to 9.00
Stove plate .....	6.50 to 7.00
No. 1 railroad wrought.....	7.00 to 7.50
Car wheels .....	8.50 to 9.00
Tramcar wheels .....	8.50 to 9.50
Machine shop turnings.....	3.50 to 4.00
Cast-iron borings .....	3.50 to 4.00
Rails for re-rolling.....	9.50 to 11.25

### Anti-Friction Locomotive Test

After operating on 14 railroads since it was put in service in April, 1930, the first locomotive ever to be equipped with anti-friction bearings recently completed its initial test period of 100,000 miles. The locomotive is equipped with Timken tapered roller bearings in all axles—engine truck, driver axles, trailer truck and tender trucks.

The operating and maintenance figures shown by this test are interpreted by some observers to indicate that the day of the completely anti-frictionized locomotive is here. The locomotive was designed by the Timken Roller Bearing Company, Canton, Ohio, to demonstrate the ability of its product in a type of service which had hitherto been thought impossible for anti-friction bearings.

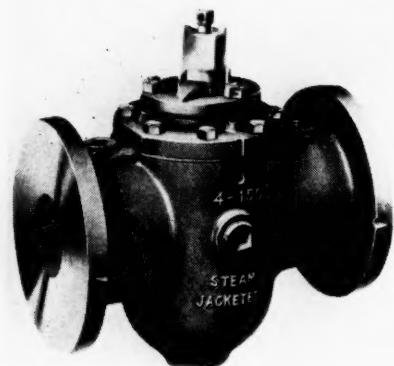
### Electricity on the Farm

New uses for electricity on the farm are being developed as more farms are served by power lines, according to the Department of Agriculture. A new development is the electrical heating of hotbeds. Several agricultural experiment stations have tried electric heaters and found them practical. Electricity is also effective in dehydrating crops, and in California it has been found useful in dehydrating for the preservation of nuts. Applications of electricity on the farm include: Feed grinding, milking, threshing, filling silos, cooling milk and cream, driving cotton gins and pumping water; farm women have a variety of household uses for it. The first use of electricity on farms was for pumping water for irrigation and such use still ranks at the top.

# NEW AND IMPROVED EQUIPMENT

## Steam Jacketed Valves

For use in conjunction with steam jacketed piping, a new series of Nordstrom steam jacketed valves has been developed by the Merco Nordstrom Valve Company, San Francisco; the valves are offered in semi-steel, in sizes from 2-inch to 4-inch, inclusive, and are rated at 150



A Nordstrom Product

pounds, line working pressure. Jackets are designed for a maximum saturated steam pressure of 100 pounds, with maximum temperature 337 degrees Fahrenheit. The Nordstrom valve embodies a lubricated plug cock and, by use of the steam jacket housing, permits the handling of fluids of highly viscous nature or fluids requiring an elevated temperature for proper transmission. The valves are cast with a double-walled body, the heating space thus formed entirely surrounding the body. Specifications of the valves may be had from the main office of the company or any of its branches.

## Log Washer and Wedge Crusher

The McLanahan & Stone Corporation, Hollidaysburg, Pa., has introduced the McLanahan 1932 Improved Log Washer, a type originated by the company more than 50 years ago. During this period many styles of washer boxes, drives, water feeds, logs, paddles, bearings, etc., have been tried on different materials in actual operation until this new machine, embodying numerous alterations and improvements, was developed. Improvements cited include: Greater capacity, clean products, lower power consumption, minimum water requirements, gears run in oil, each log driven separately, all bearings in one housing, electrically welded square logs for any strain, and other advantages. Different

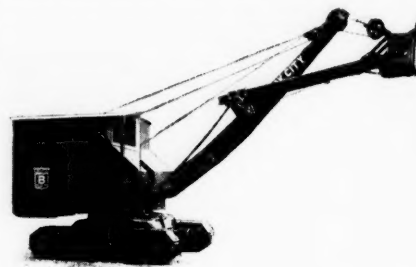
weight and size washers may be furnished for any condition.

A new McLanahan Sledge Wedge Crusher, recently introduced by the company, is designed and built for primary and secondary work of any tonnage desired. The crusher combines the powerful action of the swing hammer mill with the squeezing action of the jaw, cone and gyratory crushers, to which is added the splitting action of wedges driven through the rock by the action of reduction gears.

## Revolving Convertible Shovel

The Model B, Bay City, full-revolving convertible shovel, crane and excavator, with  $\frac{3}{8}$  yard bucket capacity, full-measure rating on line of plate basis, with crane capacity of 5 tons, and convertibility including clamshell, dragline, skimmer, trench hoe and other attachments, was first displayed at the Detroit Road Show. The machine weighs 27,000 pounds equipped as a shovel, with a standard shovel boom 15 feet long and a 17-foot boom optional. Crane boom length is 30 to 35 feet. In design, this model is identical with the heavy duty

Bay City  $\frac{3}{4}$ -yard and 1-yard models and it is offered with optional power—McCormick-Deering 40 H. P. unit, or Hercules engine of  $4\frac{1}{2}$ -inch bore,  $5\frac{3}{4}$ -inch stroke. All Bay City features are built into the machine, including powerful chain crowd, heavy unit cast car body, unit cast revolving machinery table, heavy duty patented swing lock, frictionless New Departure and Timken bearings on all machinery, 7-inch center post and wide diameter swing circle, double lubrication, electric welded shovel boom, etc. It has a compact machinery arrangement, with drums in tandem on separate shafts, E-Z finger clutch control and other important features. The machine is manufactured by Bay City Shovels, Inc., Bay City, Mich.



Has All the Usual Bay City Features

## 14-Inch Portable Belt Conveyor

A new light weight, all-purpose 14-inch portable belt conveyor, which may be handled easily by one man, is announced by the Jeffrey Manufacturing Company, Columbus, Ohio. Originally designed for anthracite coal, the machine is practical for unloading or reloading sand, gravel, cinders, crushed stone, bituminous coal and coke. It is equipped

with antifriction bearings throughout, and has a boom of standard truss construction, deep enough to give maximum strength with minimum weight. A sheet metal cover over the return belt adds to rigidity of the boom, while upper chords of the truss serve also as skirt boards. The boom is balanced on 42-inch by 3-inch roller bearing swivel wheels, the discharge height being quickly and easily regulated by a self-locking

winch. The machine is powered by a ball bearing 2-horsepower electric motor or a 3-horsepower high speed vibration-free gasoline engine. Catalog No. 530, recently issued by the company, fully describes it, along with other Jeffrey portable equipment. The rated capacity of the conveyor is 50 tons an hour.



Easily  
Operated  
by  
One Man



# CONSTRUCTION DEPARTMENT

## and

# NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

The Daily Construction Bulletin gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

### Airports, Airplane Plants, Etc.

**Fla., Jacksonville**—City receives bids Feb. 24 for airport building; 1 story, 100x130 ft., conc. foundations, brick walls, struc. steel, steel sash.

**Fla., Miami**—Latin American Airways, Inc., chartered; E. H. Huston, Olympia Bldg.

**La., Barksdale Field, Shreveport**—Forgy, Hanson & McCorkle, Alexandria, reported, low bidders at \$13,200 for construction sewage pumping station.

**N. C., Asheville**—Robt. A. Turner, 30 Stanley Woolsey St., reported, acquired from T. J. Roberts, 1264 Hendersonville Rd., Asheville-Hendersonville airport of 123 acres near Fletcher; will expend \$40,000 for completion of hangar, erect machine shop and other structures; will operate under name of Turner Flying Service, Inc.

**Tex., Beaumont**—City, Paul Millard, City Mgr., receives bids Feb. 23 for constructing administration building and hangar of corrugated iron and structural steel; Irby & Woodside, Architects., 1020 Goodhue Bldg. 12-17

**Tex., San Antonio**—Hangar Six, incorporated; J. H. Lapham, 250 Brahan St.

### Bridges, Culverts and Viaducts

#### Proposed Construction

**D. C., Washington**—Constructing Quartermaster, Bolling Field, has low bid from W. F. Brenizer Co., 1501 S. Capitol St., for 5-ft. arch culvert, 810 ft. long.

**Florida**—State Road Dept., H. H. Wells, Chmn., Tallahassee, opens bids Feb. 25 for 3000-ft. bridge over Shoal River, Okaloosa County, Road 54, Proj. 819-B; take alt. bids as follows: Type No. 1, 122 25-ft. steel I-beam spans and 1 40-ft. channel span, with conc. deck on creosoted pile bents; Type No. 2, 169 18-ft. timber spans and 1 40-ft. I-beam channel span with wood floor on creosoted pile bents.

**GEORGIA**—State Highway Bd., J. W. Barnett, Chmn., Atlanta, has low bids for 5 bridges in following counties:

**Union**—bridge, Dahlonega-Blairsville road, over Nottley River, Proj. 310, E. M. Williams, Monroe, Ga., \$7463.

**Bryan**—4 bridges, Clyde-Savannah road, between Clyde and Coastal Highway, Proj. 361-A, Kiker & Yount, Reidsville, N. C., Alt. 1, \$20,469.

**La., Rayville**—Richland Parish Police Jury, J. C. Salmon, Clk., opens bids Mar. 1 for bridge over Bee Bayou, Second Ward; plans with Capt. L. H. Hubbard and at Police Jury office.

**Maryland**—See Roads, Streets and Paving.

**Maryland**—State Roads Comsn., L. H. Stuart, Sec., Baltimore, opens bids Feb. 23 for timber bridge (518 ft. 6 in., more or less, between backwalls) on timber pile bents, including all accompanying bulkheads, etc., excluding liftspan superstructure over Neal's Sound, connecting Cobb Island with mainland, Charles County.

**Mississippi**—See Roads, Streets and Paving.

**Miss., Columbus**—Lowndes County Supvrs., H. L. Balley, Clk., open bids Mar. 7 for creosote pile and timber bridge, Nash Creek slough, same district; creosote pile and timber bridge, Motley Farm ditch, Bent Oak Road Dist. No. 5.

**OKLAHOMA**—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has low bids for 3 bridge projects in following counties:

**Pushmataha**—80-ft. truss bridge, 22-ft. roadway, U. S. Highway 271, D. C. Sampley, Sulphur, \$9411.

**Custer**—2 I-beam bridges, State Highway 14, W. S. Rimbey, 2629 W. 14th St., Oklahoma City, \$4844.

**Tulsa**—box culverts, U. S. 64, Charles Schwartz, 1904 E. 13th St., Tulsa, \$7149. (See Roads, Streets and Paving, 1-23).

**Oklahoma**—State Highway Comsn. has low bids for 3 bridges. See Roads, Streets and Paving.

**Okla., Oklahoma City**—Chicago, Rock Island & Pacific Ry. Co., W. H. Peterson, Ch. Engr., Chicago, Ill., has preliminary plans for 2-span, 88-ft. I-beam steel overpass, Second St., \$25,000.

**Tex., Sherman**—Grayson County Commrs. plan repairing approx. 10 community bridges damaged by high water.

**TEXAS**—State Highway Comsn., G. G. Wickline, Bridge Engr., Austin, opens bids Feb. 29 and Mar. 1 for 8 bridge projects in following counties:

**Crockett-Pecos**—steel, conc. bridge over Pecos River, 1 150-ft. steel I-beam span, 28 28-ft. 6-in. conc. deck girder spans, 22-ft. roadway, conc. caisson type piers, precast conc. pile type bents and abutments with pilot holes and roadway approaches, 24-ft. crown width, near Sheffield, FAP 619-F, 9.13 acres clearing and grubbing, 26,000 cu. yd. roadway excav., 698 cu. yd. struc. excav., 1009.66 cu. yd. "A" conc. (girders and slabs), 462.02 cu. yd. "A" conc. (piers and bents), 136.3 cu. yd. "A" conc. plus 10% cement, 141.5 cu. yd. "B" conc., 303,138 lb. rein. steel, 208,400 lb. struc. steel (trusses and piers), 68,242 lb. struc. steel (I-beam spans), 5680 l. f. 16-in. square precast conc. piling, 1804 l. f. conc. rail (low type), 170 cu. yd. grouted rip rap;

**Tom Green**—conc. bridge over Pecan Creek, 9 30-ft. 6-in. conc. deck girder spans, 22-ft. roadway, 5-ft. sidewalk with spread footing type substructure and relief bridge, 30-ft. crown, near Christoval;

**Atascosa**—15 conc. culverts on 4.512 mi. Highway 97, east from Jourdanton, "A" and "B" culvert excav., approx. 375 cu. yd. "A" conc., 42,825 lb. rein. steel and corr. metal pipe, 18.24 and 36 in., total about 160 l. f., SAP 628-B;

**Presidio**—conc. deck girder bridge over Alamite Creek, 6 28-ft. 6-in. conc. deck girder spans, 30-ft. roadway, 54 degree skew, spread footing type substructure and 6 large mult. box culverts, near Marfa, total 429.92 ft., SAP 862-A, 2690 cu. yd. dry channel excav., 266 cu. yd. "A" culvert excav., 50 cu. yd. "B" culvert excav., 868 cu. yd. unclassified struc. excav., 244.76 cu. yd. "A" conc. (culverts), 243.54 cu. yd. "A" conc. (girders and slabs), 319.81 cu. yd. "A" conc. (abutments and bents), 201,007 lb. rein. steel (new billet), 185 cu. yd. grouted rip rap, 594.33 l. f. conc. rail (low type), removing 3 old structures; Alt. for rein. steel, 128,463 lb. rein. steel, 72,544 lb. (new billet) rein. steel;

**Delta**—4 steel, conc. bridges, of 2, 8, 4 and 4 20-ft. steel I-beam spans, conc. floor slabs, 22-ft. roadway, treated timber piles, substructure for Cedar Creek, Big Creek, Big Creek Relief No. 1 and Big Creek Relief No. 2 bridges and roadway approaches, 34-ft.

crown width, between Cooper and Sulphur River, total 2.611 mi., Highway 154, SAP 050-E, 64,464 cu. yd. roadway excav., 2578 cu. yd. dry channel excav., 238 cu. yd. culvert excav., 2170.89 M gal. jetting and ponding, 310 hours blading embankment, 142.66 cu. yd. "A" conc. (culverts), 229.81 cu. yd. "A" conc. (I-beam spans), 51,620 lb. rein. steel (new billet), 86,210 lb. struc. steel (I-beam spans), 2332 l. f. treated timber piling (16-lb. full cell), 5,074 M f. b. m. treated timber (12-lb. full cell), 720 l. f. bridge rail;

**Crockett-Pecos**—600-ft. bridge over Pecos River, Highway 99, SAP 903-C, 4 52-ft. steel I-beam spans, conc. floor slabs, 22-ft. roadway, 2 conc. piers with precast conc. foundation piling, precast conc. pile type bents and abutments and roadway approaches, 30-ft. crown width, near Girvin, 3390 cu. yd. roadway excav., 152 cu. yd. struc. excav., 146.46 cu. yd. "A" conc. for slabs, 133.30 cu. yd. "A" conc. (piers and bents), 34,472 lb. rein. steel (new billet), 132,394 lb. struc. steel (I-beam spans), 1360 l. f. conc. rail (low type); Alt. for rein. steel, 25,583 lb. rail rein. steel, 8889 lb. rein. steel (new billet);

**Crockett**—conc. steel bridge over Live Oak Creek, 3 52-ft. steel I-beam spans, 23 28-ft. 6-in. conc. deck girder spans, 22-ft. roadway, 2 conc. piers with precast conc. foundation piles, precast conc. pile type bents and abutments, and roadway approaches, 34-ft. crown width, total length 431 mi., 7.8 acres clearing, 5.86 acres grubbing, 13,078 cu. yd. roadway excavation, 111 cu. yd. struc. excav., 811.98 cu. yd. "A" conc. (girders and slabs), 264.22 cu. yd. "A" conc. (piers and abutments), 231,024 lb. rein. steel, 102,363 lb. struc. steel (I-beam spans), 5175 l. f. 16-in. square precast conc. piling;

**Fort Bend**—359 mi. grading, draining, conc. paving underpass drainage unit, Highway 3 near Richmond, 7 acres clearing, 2.5 acres grubbing, 23,694 cu. yd. roadway excav., 378 cu. yd. dry channel excav., 400 cu. yd. "A" culvert excav., 100 cu. yd. "B" culvert excav., 8265 sq. yd. fine grading, subgrad and shoulders, 316 cu. yd. gravel base course, 7187 cu. yd. conc. paving, 9006 lb. rein. steel for paving, 95.84 cu. yd. "A" conc., 6930 lb. rein. steel for structures, 2183.36 l. f. curb and gutter.

#### Contracts Awarded

**Missouri**—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, let contract to Leslie Taylor, Jefferson City, for culvert, Proj. SB-3A, Douglass County, and for bridge, Proj. SA-3A, Reynolds County.

**Miss., Meridian**—Lauderdale County Supvs. let contract to Gulf States Creosoting Co., Hattiesburg and Meridian, for furnishing creosoted lumber and piling of all dimensions for building bridges for next 6 months: No. 12 treatment lumber, \$42 per thousand ft.; piling, 30 cents per lineal foot; No. 16 treatment lumber, \$46.50 per thousand feet; piling, 34 cents per lin. ft.

**Texas**—Petroleum Iron Works, Beaumont, has contract for 485 tons struc. steel for bridge of State Highway Comsn., over Brazos River, Young County; John F. Buckner, Gen. Contr., Cleburne.

**Tex., Dallas**—Pumicite Co., 1924 Bldrs. Bldg., Chicago, Ill., has contract for admixture on Corinth St. underpass for Harris County, J. W. Gill, Commr.; T. H. Johnson, Genl. Contr., 522 North Texas Bldg., Dallas.



**Coal Mines and Coke Ovens**

Ky., Hazard—Blue Grass Coal Co., incorporated; William Pendleton, J. E. Johnson, Jr.

W. Va., Gilmer—Boone Coal Co., reported, leased McCaa coal mines at Gilmer Station; will develop.

Va., Freeling—Splash Dan Smokeless Fuel Co., Scott Litton, Clinchfield, Pres., reported, rebuild burned office, power house and powder house in Dickinson county.

W. Va., Huntington—Phico Fuel Co. incorporated; H. R. Freeman, Charleston; C. L. Donevant, 1418 15th St., Huntington; operate coal mine near Chapmansville.

W. Va., Philippi—Westford & Lilly Coal Co., capital \$50,000, incorporated; David Gibson, George M. Miller, both Pittsburgh, Pa.

**Cotton Compresses and Gins**

Tex., Shamrock—York Gin Co., capital \$20,000, incorporated; A. G. York, Clay York.

**Cottonseed-Oil Mills**

Ark., Forrest City—Forrest City Cotton Oil Mill, P. Hickey, Engr., reported, let general contract to J. A. Moore, Forrest City, and Muskogee Steel Co., Muskogee, Okla., for 1 story building, including 90x200-ft. seed warehouse, 60x60-ft. cleaning room, two 1 story, 18x100-ft. unloading sheds; contract for materials to Vacaro-Crohmeyer Co., Forrest City; cost \$50,000. 12-10

**Drainage, Dredging and Irrigation**

Ark., Marked Tree—Poinsett County Drainage Dist. No. 7, T. C. Briance, Sec., Charles G. Frierson, Atty., authorized by Charles J. Mitchell, County Judge, to immediately begin work on \$1,000,000 flood control project. 10-29-31

La., Abbeville—Bd. of Commrs. of Isle Maronne Drainage Dist., Vermillion Parish, J. M. Moss, Sec., Police Jury Office, opens bids Mar. 12 for cleaning and dredging canal leading south from Intracoastal Canal and across properties of Oneil Stelly and others and for dredging canal 18 ft. wide, 5 ft. deep, approx. 1 1/4 mi.

La., Opelousas—St. Landry Parish Police Jury, E. O. Guillery, opens bids Mar. 7 for widening and cleaning Gournay Canal, near Eunice, Sixth Ward; Godeau & Carmouche, Engrs., Opelousas.

Va., Norfolk—U. S. Engr. Office has low bid from Arundel Corp., Pier 2, Pratt St., Baltimore, Md., at \$239,703 for dredging approx. 962,662 cu. yd. material, place measurement, in 40-ft. channel in Norfolk Harbor. 1-21

**Electric Light and Power**

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., reported, having plans drawn for central heating plant for White House, State, War and Navy buildings and any new Government buildings that may be erected in area of 21st St. and New York Ave.; tentative plans call for erection of building to cost \$750,000 to be located between 20th and 21st Sts., New York and Virginia Aves.; equipment will consist of eight 1,000 h. p. boilers and 2 auxiliary boilers of 250 h. p.; plant will be 1 story; architecture to conform with other structures. 2-11

D. C., Washington—Potomac Electric Power Co., 10th and E Sts., N. W., let contract for building addition to Sub No. 11, 13th and D Sts., N. E., to R. P. Whitty Co., 1010 Vermont Ave.; building is to house 4000 volt switchgear, which will be installed by company; J. H. Ferry, Electrical Engr.

Ky., Lexington—Phoenix Hotel Co., reported, let contract to F. A. Justice Co., Lexington, for power house, cost \$50,000 with equipment.

Fla., Jacksonville—City Comsn., reported, expend about \$150,000 for repairs to electric distribution system; Fred H. Koerber, Supt. of Electrical Distribution Dept.

Fla., Warrington—Warrington Utilities Co. incorporated; F. M. Turner, W. W. Day.

Ky., Versailles—City, H. K. Bell, Engr., Lexington, receives bids April 1 for 6 miles of 8-in. c. i. pipe, electric motor driven pumps, centrifugal pumps, 60 h. p. motors, automatic control, 500 ft. head for auxiliary

raw water supply to furnish water in dry weather to filters at spring in city; cost \$50,000. 12-10

Md., Baltimore—Pen-Mar Co., Inc., Munsey Bldg., low bidder at \$11,160 for terra cotta conduit for installation in conduit system to be built by city and leased to utilities. 2-4

Missouri—Lakeside Light & Power Co., Louis H. Egan, Pres., 30 Brentmore, St. Louis, reported, applied to State Power Comsn., Jefferson City, for permission to construct transmission system to supply Buffalo and Osage townships in Morgan County with light, heat and power; will obtain current from Bagnell dam; also applied for authority to supply service in Camden and Miller counties.

Mo., Kansas City—Kansas City Power & Light Co., G. O. Brown, Supvr., Engineering & Construction, advises question of erecting substation, 43rd and Myrtle Ave. held up; there is some possibility that company may erect small part of this installation to take care of load in area before fall; at present time there are no definite plans. 1-14

Mo., University City, St. Louis—City, E. D. Ruth, Jr., Mayor, reported, defeated \$500,000 street lighting plant bonds. 1-7

N. C., Hickory—Southern Public Utilities Co., Charlotte, reported, started construction of 11 mile extension company's lines, serving 100 additional homes in Catawba County in Plateau and Banoak sections; cost about \$15,000.

S. C., York—Town, W. E. Morton, Mayor, reported, closed contract with Southern Public Utilities Co., Charlotte, N. C., for lighting town.

Tex., Fort Sam Houston—Capt. A. M. Parker, Constr. Quartermaster, San Antonio. See Want System—Electric Distributing System.

Va., Richmond—J. Fulmer Bright, Mayor, recommend installation ornamental lights; cost \$37,000; improvements to filter plant, \$40,000; improvements to department's storage and service plant at Howard Rd., \$3000.

**Foundry and Machine Plants**

Tenn., Athens—Athens Stove Works, constructing addition, 125x200 ft.; brick; cost \$20,000; Nicholson Construction Co., 102 W. Clinch Ave., Knoxville, Contr.

**Garages and Filling Stations**

Ark., Foreman—Southern Chevrolet Co. incorporated; Frank Horner, W. C. Smith.

Fla., Jacksonville—All Weather Tire Co., 501 W. Adams St., reported, let contract to Atlantic & Gulf Construction Co., Inc., 621 Edwards Ave., for construction of service station, S. E. Cor. Broad and Monroe Sts.; 1 story, brick and steel, 105 ft. square; cost \$25,000; W. D. Bue, Designer.

Md., Baltimore—George C. Smith, Belair Rd., Fullerton, erect filling station Belair Rd. near Fitch Ave.; conc. block; 1 story; 40x55 ft.

Md., Baltimore—Atlantic Refining Co., Frank McDonald, 3144 Passayunk Ave., Philadelphia, Pa., Keyser Bldg., Baltimore, reported, let contract to Baltimore Steel Co., 1400 Eastern Ave., for steel for filling station, 33rd and Barclay Sts.; brick and stucco, 1 story; V. Paturzo & Son, 800 N. Haven St., for concrete block; to Dietrich Bros., Davis and Pleasant Sts., for steel work for garage, 1900 W. Pratt St.; V. Paturzo Bro. & Son, 800 N. Haven St., for conc. block; to Maryland Steel Products Co., Standard Oil Bldg., for steel work for filling station, office and display room, N. W. Cor. Pennsylvania Ave. and George St.; V. Paturzo Bro. & Son, for conc. block; owner builds; Mr. Lente, Supt., Key Highway. 12-24

Md., Baltimore—Academy Garage, Inc., 2200 Reisterstown Rd., incorporated; Jonas M. Stein, Elizabeth K. Duke.

Mo., Brookfield—E. B. Thompson Chevrolet Co., capital \$40,000, incorporated; E. B. Thompson, D. F. Nichols.

N. C., Charlotte—Carolina Auto Supply House, Joseph G. Fitzsimons, Pres., reported, rebuild burned structure, 223 N. College St.; temporary address 236 N. College St.

Okla., Oklahoma City—Hobson Oil Co., 1142 North Hudson Ave., construct filling station.

Okla., Tulsa—Oil City Motor Co., C. T. Thompson, Pres.-Gen. Mgr., reported, leased building S. W. Cor. 12th St. and Boston Ave.

Tex., Canton—West Motor Co., incorporated; W. E. West, S. L. West.

Tex., Fort Stockton—Pace Motor Co., capital \$20,000, incorporated; George B. Pace, Joe Mattison.

Tex., Waco—Auto Supply Co., incorporated; D. F. Wendorf, J. D. Nicholson.

Va., Bluefield—Pure Oil Co., reported, construct distributing plant on Virginia Ave., also erect filling station.

**Gas and Oil Enterprises**

Ala., Birmingham—Birmingham Gas Co., 317 N. 20th St., reported, expend \$40,000 gas plant improvements and line extension.

Fla., Jacksonville—Jacksonville Gas Co., reported, plans \$40,000 improvements.

Ky., Louisville—Louisville Gas & Oil Exploration Corp., capital \$110,000, incorporated; L. Underwood Rowntree, Oscar A. Block, 2327 Saratoga Drive.

Md., Baltimore—City Council Committee on Buildings and Regulations, reported, approved construction of gasoline filling station S. E. Cor. Fayette and Harrison Sts. by George W. Rife, Rife Bldg. 12-24

Miss., Meridian—Meridian Eagle Oil Co., reported, erect \$30,000 ice plant.

Mo., St. Louis—Great Eastern Oil Co., Inc., chartered; J. B. Solomon, 5623 Enright St.

Mo., Wellsville—Missouri Power and Light Co., Kansas City, reported, granted permission by Missouri Public Service Comsn., Jefferson City, to install and operate natural gas distribution plant. 1-14

Okla., Oklahoma City—Anderson-Pritchard Oil Corp., Colcord Bldg., reported, plans pipe line in Oklahoma City oil fields; cost \$40,000.

S. C., Columbia—South Carolina Refiners Oil Co. incorporated; J. E. Neams, Cayce, S. C.

Tenn., Lenoir City—Sunbright Gas Co., reported, granted franchise for installation of natural gas system. 1-21

Texas—Gulf Production Co., Frick Annex Bldg., Pittsburgh, Pa., reported, construct 6 unit compressor type casinghead gasoline plant in Cordova survey near London, Rusk County; survey of gathering system started; material and equipment ordered; capacity 5,000,000 cu. ft.

Texas—J. W. Frazier, McAllen, reported, plans 8 to 10-in. crude oil pipe line from near Rio Grande City to point on lower coast.

Tex., Denton—Freeman & Freeman Oil Co., capital \$75,000, incorporated; Fred Freeman, W. F. Hamilton.

Tex., Laredo—Lobo Oil Co., capital \$32,000, incorporated; Paul S. Hill, W. O. Daniels.

Tex., Memphis—Roy Purdue and associates, reported, have contract for gas supply.

Tex., Pettus—Pettus Oil and Gas Co., capital \$66,000, incorporated; J. L. Mauldin, W. F. Scarborough.

Tex., Wellington—City, reported, signed contract with Roy Purdue for gas supply system; work on distributing system to begin at once. 11-5

W. Va., Hamlin—Vernon Gas Co., capital \$25,000, incorporated; F. M. Adkins, Harry Harmon.

W. Va., Reedy—Reedy Oil and Gas Co. incorporated; L. M. Riddle, 1105 West Ave., Charleston; R. R. Carpenter, Reedy.

W. Va., Williamson—Grey Eagle Natural Gas Co., capital \$25,000, incorporated; J. Frank Brown, Williamson; Frank E. Wright, Kermit.

**Ice and Cold-Storage Plants**

Va., Newport News—Peninsular Ice Service, Inc., capital \$50,000, chartered; George T. Hardy.

**Land Development**

Ark., Helena—Rabb Realty Co. incorporated; T. W. Rabb and Vivian Rabb.

Ark., Nashville—Highland Orchards, Inc., successors to Bert Johnson Orchards Co., reported, will set out 30,000 peach trees.

Fla., DeFuniak Springs—Watson Development Co., Inc., chartered; A. W. Dannelly, F. E. Dannelly.

Fla., Eustis—Clermont Groves, Inc., chartered; R. D. Keene, H. C. Duncan.

Fla., Jacksonville—Starr Property Corp. incorporated; H. Finkelstein, S. Finkelstein.

Fla., Miami—Crow-Dodd Realty Co., incorporated; L. W. Crow, 448 N. E. 38th St.

Fla., Miami Beach—Seal Co. incorporated; F. H. Siegel, 137 Fifth St.

Fla., National Gardens—Royal Dutch Gardens, Inc., chartered; W. W. Sterling, H. J. Shie.

Fla., Sarasota—Slater Properties, Inc., chartered; A. C. Slater, R. A. Moore.

Fla., Tallahassee—Moor Brothers Holding Co., incorporated; F. C. Moor, C. L. Waller.

Fla., Sanford—Brooklyn Miami Properties, Inc., chartered; L. F. Boyle, D. S. Varn.

Md., Baltimore—Aqua Properties Corp., 1409 Continental Bldg., incorporated; Joseph France, J. Grossan Cooper, Jr.

Md., Baltimore—Brooks Co., 3315 Crossland Ave., incorporated; Saul Silberman, A. Herman Siskind.

Mo., Joplin—J. W. Phillips, developer of Hollywood Park on Shoal Creek, reported, plans residential development; has 22 acre site surveyed for building lots; will build swimming chute at park and make other improvements.

Mo., St. Louis—Deming Real Estate Co. incorporated; John R. Green, 314 N. Broadway.

N. C., High Point—Wrenn-Perry Corp., capital \$100,000, chartered; Clem Wrenn, Sehorn Perry, Garland B. Daniel.

Tex., Harlingen—Texas Citrus Development Co. incorporated; Roy Tait, W. W. Willoughby.

Va., Virginia Beach—MacPhail Corp. incorporated; Duncan MacPhail.

### Lumber Enterprises

Fla., Holly Hill—Clarke Lumber Co., Inc., reorganization of Halifax Lumber Co., Inc.; Frank D. Clarke, Pres., Phoenix and Atlantic Ave., Daytona Beach.

Fla., Palatka—General City Lumber Co. incorporated; G. W. Wilson, J. F. Godard.

Ky., Dayton—G. & F. Lumber Co., capital \$45,000, incorporated; W. E. Fister, Emma Lusk.

La., New Orleans—Formation, reported, of American Fir Lumber Corp., announced by B. T. Toomer, 910 Burdette St., V. P.-Gen. Mgr.; company will act as distributors in Southeast for Willapa Harbor Lumber Mills, Raymond, Wash.; capital \$100,000; will utilize facilities of American Creosote Works in Southport.

Md., Baltimore—Thomas Hicks & Son, 106 W. Madison St., reported, have contract for lumber yard, warehouse and office repairs for MacLea Lumber Co., 506 S. Central Ave. 2-11

Md., Baltimore—John M. Reiser & Sons, 620 Portland St., and Chesapeake Ave., Brooklyn, reported, erect plant Charles and Wells Sts.; 1 story, brick, 12,000 square ft. floor space.

N. C., Gumberry—T. J. Shephard Lumber Co., capital \$50,000, incorporated; T. J. Shephard, D. S. Shephard.

Tenn., Knoxville—Shepard-Huffaker Lumber Co., Inc., organized by W. G. Shepard, R. R. Huffaker; has plant 800 Hannah Ave.; will install combination electric milling machine.

Tex., Dallas—Southwest Lumber Co. chartered; R. E. Wylie, 2912 Oak Lawn St.

Tex., Gladewater—Matthews-Nanney Lumber Co. incorporated; J. M. Matthews.

S. C., St. Matthews—Beaver Creek Hardwood Co., chartered; B. L. Montague, Pres.; J. R. Long, Sec.

### Mining

Ga., Elberton—Saluda Crushed Stone Co., B. E. Harrison, Sec., Greenville, S. C., confirms purchase of Elberton Quarries, Inc., Elberton; property 12 mi. west Elberton on Seaboard Air Line Ry., shipping point Berkeley; plans installing crushing plant with capacity of 1500 tons daily to supply crushed stone for highway construction, general building construction, railroad ballast; also, rip rap, rubble and jetty stone; erection of plant by own forces from own plans. 2-11

Ky., Avoca—Avoca Stone Co., capital \$25,000, chartered; Thomas J. Wood, James W. Stites.

Okla., Hugo—Choctaw Sand & Gravel Co., capital \$25,000, incorporated; E. R. Hunter, Paris, Tex.; L. R. Blakely, Hugo.

Tex., Tyler—Degener & Co. incorporated; S. V. Guerin, Troy Smith.

Va., Staunton—Angusta Limestone Products, Inc., capital \$60,000, incorporated; A. W. Higgins, Alexandria, Va.

### Miscellaneous Construction

Ala., Mobile—H. D. Shaw and Dean P. Woleben, Archts. and Seawall Engrs., proceeding with plans for Mobile County seawall; H. D. Shaw, Chmn., Seawall Comsn.

Arkansas—U. S. Engr. Office, Vicksburg, Miss., let contract to Uzzelle & Rogers, Memphis, Tenn., at 95 cents per cu. yd. for 45,000 cu. yd. earthwork, north bank Arkansas River, Ark.

Fla., Fort Myers—Committee, composed of Mayor Josiah Fitch, William J. Wood, Dr. J. W. Baird, Fred Mellor and Simon Loeb, formed to consider plans for erecting memorial to Thomas A. Edison.

Fla., Ft. Myers—Palm-Lawn Memorial Park Association, Lester H. Baker, Sec., completed plans for mausoleum; build by day labor.

Ky., Wickliffe—State Game & Fish Comsn., C. J. Meredith, Asst. Supt. of Hatcheries, Frankfort, construct dam across Miner Slough, Ballard County.

Louisiana—War Dept., Patrick J. Hurley, Secretary, Washington, authorized allotments of \$295,000 for flood work in state; \$200,000, emergency flood work on Ouachita River near Monroe and West Monroe; \$25,000, general flood protection along Ouachita, Black and Red Rivers; \$50,000, flood work on Red River between Sandy Bayou and Long Lake, and \$20,000, flood work in Atchafalaya Basin.

La., Gretna—Gretna Swimming Pool Association opens new bids Feb. 21 for conc. swimming pool and dressing room buildings, Derbigny and Delord Sts., between 12th and 13th Sts.; Contr. 1 to include excavation, brick work, conc. work, rein. steel, carpentry work, cementing and plastering; separate contracts on drilling well, electric wiring, plumbing, fence, drain tile, millwork, steel sash, tile roofing, painting, sheet metal work and glazing. Following prospective bidders on Contr. 1: Lionel F. Favret, 937 Gravier St.; O. M. Gwin Construction Co., 3503 Fern St.; J. A. Haase, Jr., 918 Union St.; Reilly-Ruckstuhl, Inc., 423 Carondelet St.; Reimann Construction Co., Maritime Bldg.; Wm. Wallace, Pere Marquette Bldg., and L. J. Woodworth, 6017 Vicksburg St., all New Orleans; pool 50x150 ft., depth 2 1/2 to 9 ft.; Theo. L. Perrier, Archt., Maritime Bldg., New Orleans.

Mississippi—War Dept., Patrick J. Hurley, Secretary, Washington, allotted \$15,000 for repairs in levees of Panola-Quitman Drainage Dist., Panola, Quitman and Tallahatchie Counties.

Mo., Kansas City—U. S. Engr. Office, Postal Telegraph Bldg., let contract to Lake Superior Piling Co., 221 N. LaSalle St., Chicago, Ill., at \$26,211, for 6000 round wood piles.

Tennessee—State, Howell Buntin, State Game Warden, Nashville, establish fish hatchery in East Tennessee, construction to start in early spring.

Tenn., Nashville—City, Bd. of Park Comms., C. M. McCabe, War Memorial Bldg., construct enclosed swimming pool; 75x120 ft., conc., brick, stucco, 1-story bldg.; Foster & Creighton Co., Gen. Contr., American Natl. Bank Bldg.

Tex., Aransas Pass—Harbor Ferry Co. plans pier out from Mustang Island, 400 ft. seaward, ending in tee-head about 100 ft. long, 24-ft. wide.

Tex., Beaumont—City Port Comsn., W. Scott Hammond, Port Director, opens bids Feb. 16 for extension to shipside warehouses No. 6; 80x200 ft., \$16,000.

Tex., Corpus Christi—Following prospective bidders on steel sheet pile cribs at Port of Corpus Christi, bids due office Navigation & Canal Comms., Nueces County Navigation Dist. No. 1, Richard King, Chmn., Gugenheim & Cohn Bldg., Feb. 29: Tellepsen Construction Co., 3900 Clay St.; C. R. Weeks Construction Co., Post Dispatch Bldg.; American Construction Co., Rusk Bldg.; Chas. A. Graham, Macatee Hotel; I. O. Peterson, 6608 Capitol Ave., all Houston, Tex.; Scrivner & Richardson, Aransas Pass; J. De Puy, Milam Bldg.; Sumner Sollitt Co., Natl. Bank of Commerce Bldg., both San Antonio; Nunez Construction Co., 2311 1/2 Ave. C, Galveston; Merritt Chapman & Williams Corp., Southern Bldg., New Orleans, La.; Spence & Howe Construction Co., Port Arthur; Southwest L. E. Myers Co., Allen Bldg.; Austin Bridge Co., 1813 Clarence St., both Dallas; Robert J. Cummins, Conslt. Engr., 1105 Nixon Bldg., Corpus Christi, and 727 Bankers Mortgage Bldg., Houston. 2-11

### Miscellaneous Enterprises

Ark., Jonesboro—H. J. White, Stuttgart, reported, operate Jonesboro rice mill, under lease.

Ark., Jonesboro—Sammons Printing Co., capital \$20,000, incorporated; A. B. Anderson, J. G. Garrett.

Fla., Jacksonville—Southern Container Corp., Commodore Point, H. B. Foshee, Melbourne, establish plant to manufacture corrugated paper products, veneer crates, etc.; Southern Equipment Corp. advises work com-

menced Feb. 1 around nucleus of 20,000 sq. ft. of floor space in 3 leased buildings; are building a 24x48 ft. frame structure to house veneer lathe and clipper, a 12x108 ft. frame Moore dry kiln and conc. steaming vats, resetting 125 h. p. H.R.T. boiler and installing equipment to manufacture 15,000 corrugated paper boxes, 2500 veneer hampers or baskets and 2000 veneer crates per 10-hr. day; paper box machinery purchased from F. X. Hooper Co., Glenarm, Md.; veneer and crate machinery being shipped from users having surplus equipment; construction work under own supervision. 2-11

Fla., Jacksonville—Floridol Co., Inc., Floridol Bldg., has plant for manufacture Floridol hair oil treatment; later will install bottling machinery, etc. 2-11

Fla., Fort Pierce—Fort Pierce Implement Co. incorporated; W. H. Reed, E. Jackson.

Fla., Fort Pierce—Orange Blossom Dairy Co. incorporated; C. E. Collins, E. S. Fowler.

Fla., Fort Pierce—W. G. Parr, Fort Pierce, reported, has contract for warehouse for Fort Pierce Steamship Co., W. F. Parker, Pres., Miami. 2-11

Fla., Miami—W. T. Price Dredging Co., capital \$100,000, incorporated; W. T. Price, 3200 S. W. 27th Ave.

Fla., Miami Beach—Pier Ball Room, Inc., chartered; J. S. Woolard, 240 Espanola Way; amusement.

Fla., St. Petersburg—General Match & Machine Corp., incorporated; S. M. Friede, C. S. Brooks.

Ga., Atlanta—Atlantic Steel Co., 16th St., N. W., reported, erect addition to building; 1 story; 70x140 ft.; conc. found.; struc. steel frame; owner builds.

Md., Baltimore—Royal Cleaners & Dyers, Inc., 425 Patapsco Ave., Brooklyn, incorporated; Richard E. Preece, R. E. Lee Young.

Md., Baltimore—Royal Novelty Co., Inc., Harry Stieger, Mgr., leased building 8 E. Mt. Royal Ave., for manufacture "Jostle," amusement device.

Md., Baltimore—Sterling Engraving Co., 414 Walter St., incorporated; Clayton A. Thoms, 1325 G St., N. W., Washington, D. C.

Md., Baltimore—Electrical Engineering and Machine Works, C. F. Dinsmore, Owner, 1708 Greenmount Ave., reported, acquired patents formerly owned by Wonder Electrical Appliance Corp., Holliday and Center Sts.; will make machinery to salt and roast peanuts, electrically operated automatic vending machines for sandwiches, etc.

Md., Baltimore—Compap Products Co., 2205 Eutaw Place, incorporated; Millard S. Leonard, A. Preston Osteen; erect paper plant; initial plans made.

Md., Baltimore—Carr-Lowrey Glass Co., Carl G. Hilgenberg, Pres., Walter R. Leach, Sec.-Mgr., Westport, considering construction of building to house additional tank and bottle machinery; date of beginning work not set; manufactures glassbottles, food containers, etc.

Md., Orangeville, Baltimore—A. E. George erect 1 story brick building N. W. Cor., Lehigh St. and Ashland Ave., Orangeville, for sausage manufacture.

Miss., Picayune—Lamont Rowlands, reported, plans increasing acreage of tung oil trees in Pearl River County; has 7000 acres planted; later plans establishing mill for tung oil.

Mo., Joplin—Rice-Wray Mfg. Co., Chicago, Ill., novelty manufacturers, open branch plant in McCrabb Bldg., 13th St. and McKinley Ave.; manufacture "jig saw" puzzle, handmade gifts, hand-carved bottle corks, paper knives and wooden letter-openers; Frank DeGood to be local manager.

Mo., St. Louis—Binz Hide and Tallow Co., Frank J. Binz, Pres., DeKalb and Zepp Sts., reported, construct 3125 additional square ft. of floor space in rein. conc. and brick building, 106x32 ft.; expending \$16,000 for new machinery and equipment.

Mo., St. Louis—Economy Products Co., W. W. Strickler, Pres., 705 Euclid Ave., organized to manufacture metal dikes and fire walls as substitute for dirt dikes around oil plants.

Mo., St. Louis—Commercial Lacquer Corp., E. Ryan, Pres., 2112 Gravois Ave., Edward Ryan, 1003 Eichelberger St., plans manufacture of new lacquer to be used on cotton, wool and rubber. 2-11

Mo., St. Louis—Metalcraft Corp., S. C. McCluney, Pres., 5101 Penrose Ave., reported, plans installation additional machinery; leased 3500 sq. ft. additional floor space at 4204 N. Union Blvd. for use as warehouse and repair dept.; will revamp entire plant; manufactures toys and metal specialties.



Mo., Sedalia—Wallace-Crocker Packing Co. and Sedalia Stockyards Co., Box 82, F. F. Wallace, Pres., will construct new plant; 60x100 ft., brick, cement floors, comp. roof; cost \$50,000; daily output 100 hogs and 25 cattle; contract for packing plant not let; stockyards about half completed; install packing house equipment and refrigeration unit; Sterling Ice Machine Co. and Bonnell-Tahz Co., 1515 N. Grand St., St. Louis, Contrs. 1-14

Mo., Taos, R. D. Jefferson City—Blue Bell Poultry Farms, Inc., R. 3, Jefferson City, has plant, 15,000 baby chicks per week capacity; will do no building for about 2 years, build special brooders for experimental purposes. 2-4

Mo., Kansas City—Royal Ice Cream Co. incorporated; J. Hutto, 126 E. 56th St. Terrace.

Mo., Kansas City—Haynes Drug Co. incorporated; C. I. Clearwater, 1109 E. 34th St.

N. C., Greensboro—Following additional contracts let for building for Coca Cola Bottling Co.: George W. Kane, 228 Jefferson Standard Bldg., Gen. Bldg. Contr.; Face brick, Pine Hill Brick Co.; cement and crushed stone, C. B. Clegg, Fulton; common brick and hollow tile, Borden Brick and Tile Co., Westover Terrace; roofing and sheet metal, Budd-Piper Roofing Co.; cast stone, Arnold Stone Co. of N. C., Inc., 916 Warren St.; wiring, Guilford Electric Co., 216 W. Market St.; glass and glazing, Pittsburgh Plate Glass Co., Pittsburgh, Pa.; misc. and ornamental iron, Soule Hoffman Co., Inc.; plastering, Jas. A. Smith & Son; plumbing and heating, Robb Plg. & Htg. Co.; garage doors, The Overhead Door Co., Hartford City, Ind.; building is 2 stories and basement; rein. conc. frame with rough structure face brick and cast stone trim; also 14-car face brick garage. 12-24

N. C., High Point—Gibson Ice Cream Co., capital \$50,000, incorporated; S. D. Gibson, Jr., Roy A. Arnette.

S. C., Columbia—State Penitentiary may erect building at penitentiary to house machinery for manufacture work garments; clothing to be handled by company installing machinery.

S. C., Gaffney—DeCamp Publishing Co., incorporated; Ed H. DeCamp.

S. C., Greenville—Laurens Road Development Co., capital \$10,000, chartered; W. P. Conyers, Pres.; T. C. Gower, Sec.-Treas.; own and operate farms and dairies.

Tenn., Chattanooga—First Aid Supply Co., Inc., chartered; N. T. Covington, Sheffield Rd., manufacture antiseptic, for distribution through the South; has plant at Chicago, Ill.

Tenn., Clarksville—Harlin & Williams, W. C. Edwards, Mgr., installing machinery in building, Legion St. and Public Square, for manufacture shirts; will be known as Clarksville Mfg. Co. 2-11

Tenn., Nashville—Model Plumbing Co., chartered; Victor A. Johnson, William J. Wheeler.

Tex., Denton—Public Construction Co., capital \$25,000, incorporated; Grover S. Campbell, W. D. Hollers.

Tex., Fort Worth—Crater's Jiffy Drain, incorporated; H. P. Bonner, 4900 Crestline Rd.

Tex., Waco—Texas Valley Vegetable Co. incorporated; W. B. Dossett, T. J. Chidlow.

Va., Norfolk—V. R. Stell, Inc., capital \$15,000, chartered; V. R. Stell, 507 Bontetourt St.; plumbing and heating.

Va., Richmond—Innovation Brakes, Inc., capital \$100,000, chartered; S. R. Brame, 210 E. Grace St.

W. Va., Fairmont—Chamber of Commerce, reported, negotiating with Adercraft Neon Corp., 117 N. Highland Ave., Pittsburgh, Pa., for establishment of plant; local capital to secure location.

### Motor Bus Lines and Terminals

Ark., Little Rock—H. S. Smedley, Little Rock, reported, transferred license permit to Egyptian Motor Lines, Inc., Chicago, Ill., for passenger motor bus, interstate, from Arkansas Missouri line to Memphis, Tenn.

Md., Baltimore—Taxi-Transit Corp., 815 N. Calvert St., incorporated; Israel Block, Albert A. Block.

Mo., St. Joseph—Thoroughbred Coach Lines, Inc., chartered; L. V. Cox, Calvin M. Cox, both Graham.

Mo., St. Louis—Rail-Road Corp. incorporated; Clarence L. Finot, 2733a S. Kings-highway.

Tenn., Knoxville—Colonial Short Lines Co., Cincinnati, O., J. R. Palmer, Dist. Mgr., will probably remodel Gay St. building for bus station; plans prepared by Ryno and Brackney, Brlow Bldg., Archts.

Va., Richmond—Dixie Motor Transit Lines, capital \$25,000, incorporated; J. R. Tucker, State Planters Bank Bldg.

### Railways

D. C., Washington—Southern Ry., Fairfax Harrison, Pres., authorized by Interstate Commerce Comsn., Washington, to issue \$42,769,000 development and general mortgage 4% gold bonds.

Va., Richmond—Chesapeake & Ohio Ry. Co., H. C. Pearce, Dir. Pur. and Stores, Cleveland, Ohio, ordered from Pullman Car & Mfg. Corp., Chicago, Ill., air conditioning equipment for installation in 3 coaches and 3 dining cars.

### Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

#### Proposed Construction

Alabama—State Highway Comsn., L. G. Smith, Highway Dir., Montgomery, opens bids Mar. 10 for 23.58 mi. paving, Mobile via Wilmer to Mississippi state line, Route 42, 266,000 sq. yd. pavement, alt. bids to be received on Portland cement conc., bitum. conc., rock asphalt and sheet asphalt pavement; bitum. types will be laid on Portland cement conc. base; state to furnish Portland cement for pavement; contract to include grading, guard rail, grass planting, raised edge pavement, etc.

D. C., Washington—Office of Architect of the Capitol, David Lynn, opens bids Mar. 3 for conc. pavement on terraces to west approach to U. S. Capitol Bldg., Washington.

D. C., Washington—Arlington Memorial Bridge Comsn., Office Executive Officer, Room 1615, Navy Bldg., opens bids Feb. 20 for labor and materials and constructing temporary gravel surfacing for Memorial Parkway to Cemetery, leading westward from Boundary Channel Bridge to Georgetown-Alexandria Turnpike; gravel surfacing, 6 in. deep, 5000 sq. yd.; 1000 cu. yd. grading, 300 l. f. 8-in. vit. pipe, 3500 l. f. wooden border curb.

Georgia—State Highway Comsn., J. W. Barnett, Chmn., Atlanta, making survey for highway to connect Columbus, Geneva, Butler, Howard, Reynolds and other points.

Kentucky—State Highway Comsn., H. D. Palmore, Engr., Frankfort, rejected bids for 2.461 mi. grading, draining, surfacing, Glendale-Dixie Highway, SP 486 A-GS, Hardin County. 1-28

La., Baton Rouge—East Baton Rouge Parish Police Jury plans surface treating suburban roads; A. G. Mundinger, Acting Parish Engr.

La., Lake Arthur—City, Mayor and Bd. of Aldermen, has low bid from Union Paving Co., Louisiana Natl. Bldg., Baton Rouge, at approx. \$13,000 for approx. 11,500 sq. yd. conc. paving; bids under advisement pending sale of \$15,000 bonds.

La., New Orleans—City, Office Pur. Agt., Room 24, City Hall Bldg., opens bids Feb. 23 for paving Franklin Ave., including incidental work.

MARYLAND—State Roads Comsn., L. H. Stewart, Sec., Baltimore, opens bids Feb. 23 for 2 roads in following counties: Cecil—1.46 mi. conc., Calvert to Pennsylvania State line, Ce-128-24; St. Mary's—1.18 mi. gravel, Leonardtown-Glebe School road, end Sm-68 to Glebe School, Sm-88-82.

MARYLAND—State Roads Comsn., L. H. Stewart, Sec., Baltimore, has low bids for road and bridge in following counties: Carroll—1.5 mi. conc., Francis Scott Key Highway, CI-92-54, Thomas, Bennett & Hunter, Westminster, \$25,029; Frederick—substructure, and approaches for proposed bridge over Monocacy River, road from Rocky Ridge to Detour, known as Miller's Bridge, 159-57, Forbes-Murphy Construction Co., 326 St. Paul St., Baltimore, \$36,684;

Montgomery—purchase and removal Harts-horn dwelling, Kensington, M-77-123, no bids received; purchase and removal George Gloyd and Dorsey Gloyd dwellings, Gaitersburg, no bids.

Md., Baltimore—City, Bd. of Awards, Office City Register, City Hall, opens bids Feb. 24 to grade, curb and pave, with sheet asphalt on conc. base, streets in Contr. 611, 8100 sq. yd. sheet asphalt; plans \$5.00; George Cobb, Highways Engr.

Md., Baltimore—City, George Cobb, Highways Engr., has low bid from National Pav-

ing & Contracting Co., Menlo Dr. and Western Md. Ry., at \$36,314, for 98,000 sq. yd. sheet asphalt paving, Contr. 609. 2-4

Md., Baltimore—Bernard L. Crozier, Chief Engr. of Baltimore, asked State Roads Comsn., L. H. Stewart, Sec., to pave Eutaw Pl., Dolphin St. to Druid Hill Park, with sheet asphalt from city's share of State Roads funds; est. \$140,000; also bridge south of Woodbourne Ave., \$270,000; other projects in State Roads Comsn. program in city include Patapsco Ave., Falls Road, Loney's Lane, Reisterstown Road.

Mississippi—State Highway Comsn., C. M. Williamson, Jr., Jackson, opens bids Feb. 23 for approx. 3.118 mi., Laurel-Hattiesburg road, Jones County, FAP 70-E; roadway items include 18,477 cu. yd. common excav., 16,396 cu. yd. borrow, 459.1 ft. 18-in. culvert pipe, 172.88 cu. yd. "A" conc., 24.96 cu. yd. "C" conc., 18,876 lb. rein. steel, 1.77 mi. Bermuda sodding; bridges, 632.21 cu. yd. "A" conc., 148,440 lb. rein. steel, 715.1 ft. conc. railing, 2520 l. f. foundation piling, 60 cu. yd. rip rap.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., opens bids Feb. 24 for improving Wellsten Ave., Wellmar Ave., Janet Ave., Brown road, bridge on Rieger road, improving Shady Ave., Lasky road, McKnight road, Lindbergh Blvd. and rein. conc. bridge, Old Halls Ferry road, over Sutter Creek.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has surveys under way for improving State Highway 18, Shawnee north to Pottawatomie County line.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has low bids totaling \$630,000 for 7 roads and 3 bridges in following counties:

Tulsa—widening West Tulsa bridge over Arkansas River, Standard Paving Co., 2119 E. 11th St., Tulsa, \$156,117;

Adair—bridge over Illinois River near Watt, State Highway 17, Kellher Construction Co., Southern Bldg., Little Rock, Ark., \$48,494;

Cotton—8.5 mi. grading, draining, State Highway 32, Younger Bros., S. E. 50th St., Oklahoma City, \$10,807 on one section and \$9982 on other;

Canadian—cutoff, U. S. 66, 4.7 mi. grading, draining, Hyde Construction Co., Enid, \$19,417; 4.7 mi. paving, Ryan-Richards Co., Oklahoma City, \$97,615; bridges, Herman Merveldt, El Reno, \$36,761; 6.06 mi. grading, draining, J. J. M. Harrison, Norman, \$84,106; 6.06 mi. paving, Sandy Heltz, Little Rock, Ark., \$134,295; also 3.5 mi. paving, U. S. 66, Calumet south, Ryan-Richards Co., \$55,884. 2-4

Okla., Tulsa—Tulsa County Comsn., S. K. McLelland, County Engr., expend \$419,978 for highways in 1932: Grading 1780 sq. yd. North road to Sand Springs, \$3421; 6 other grading projects, \$12,915; 2 mi. grading, N. Cincinnati Ave., \$15,000; grading approaches to Flat Rock Creek bridge, \$1000; 1.6 mi. paving, W. 51st St., Turkey Mountain road to Sapulpa-Tulsa paved highway, \$37,500; 1 mi. paving, E. 31st St., \$24,300; bridge and undercrossing, 31st St. and Yale Ave. \$3250; drainage structures, bridges, \$39,000.

Tex., Dalhart—Dallam County, reported, voted \$360,000 highway bonds.

Tex., Fort Sam Houston, San Antonio—Quartermaster Supply Officer, Eighth Corps Area, opens bids Feb. 16 for surfacing roadways in area of Eighth Corps Area general depot; 115 tons coarse black base and 65 tons topping asphalt and fluxing and binding oils.

#### Contracts Awarded

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, took following action on 6 road projects in following counties (all other projects in this letting held in abeyance):

Ballard—6.1 mi. surfacing, Wickliffe-Paducah (US 60) road, FA 154-AS-2 (rejected); Hickman—6.9 mi. surfacing, Bardwell road, FA 131-ES2 (rejected);

Livingston—16.5 mi. surfacing, Smithland-Marion (US 60) road, FA 92-A182 & SP 8-B8 (rejected);

Logan—6.820 mi. surfacing, Russellville-Central City road, SP 15-ABS, let using traffic bound limestone to Kaiser Transportation Co., Buechel, \$22,375;

McCracken-Livingston—15.1 mi. surfacing Paducah-Smithland (US 60) road, SP 808 (rejected);

Muhlenberg—7.95 mi., Central City-Russellville road, SP 15-B8, awarded using traffic bound limestone to Corum Bros., Madisonville, \$31,069.

Md., Baltimore—State Roads Comsn., L. H. Stewart, Sec., let contracts for cement: 156,000 bbl., North American Cement Corp., Baltimore Trust Bldg.; 156,000 bbl., Lehigh Portland Cement Co., 326 St. Paul St.; 156,000 bbl., Washington Building Lime Co.



Equitable Bldg.; 16,000 bbl., Allentown Portland Cement Co., American Bldg.; 16,000 bbl., Lone Star Cement Co., 3327 Winterbourne Rd.; 16,000 bbl., Universal Atlas Cement Co., First National Bank Bldg., all Baltimore; 16,000 bbl., Keystone Cement Co., 16,000 bbl., Coplay Cement Mfg. Co., Land Title Bldg., both Philadelphia, Pa.; 16,000 bbl., West Penn Cement Co., Butler, Pa.

Mississippi—State Highway Comsn., C. M. Williamson, Dir., Jackson, let contracts for 2 road projects: Mississippi side approach to bridge over Escatawpa (Dog) River, Lucedale-Mobile (Ala.) road, George County, Work Order No. 273, S. L. Bates, Wiggins, 93,309 cu. yd. hydraulic settlement of fills by pressure jetting on 3 or more sections, Jackson-Canton road, Madison County, FAP 79-B, Hartman-Clark Co., Peoria, Ill. 1-21

Okla., Tulsa—Tulsa County Comsn. let contracts for culverts, bridges and other drainage structures: Standard Paving Co., 2119 E. 11th St., \$14,317; Moore-Creekmore Construction Co., \$8209; Frye-Lynch Construction Co., \$4676.

Tex., Houston—Harris County Comms. Court let contract to W. D. Haden Co., at 89 cents per ton for 40,000 tons shell.

### Sewer Construction

**Sewer Construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.**

Fla., Pensacola—Office of Ch. Bureau of Yards and Docks, Navy Dept., Washington, receives bids Mar. 9 for sewers and storm drainage system at naval air station, Corry Field, Pensacola.

Md., Baltimore—W. H. Thompson, Relay, reported, has contract at \$16,443 for sewers, Storm Water Contr. 173. 2-11

Md., Baltimore—P. E. Rawlings & Son, 2400 Alsipth St., reported, low bidders at \$18,625 for sewers, Storm Water Contr. 171. 2-4

Mo., Joplin—City plans voting March 4 on \$100,000 bonds, including \$10,000, fire fighting apparatus; \$70,000, improvements to storm sewer and street drainage system. 2-4

Mo., St. Louis—S. Krause Co., 645 Edmond St., reported, has contract at \$13,500, for foul water sewer below Maline Creek channel from Mississippi River to water works conduit right of way known as Section A-2, Maline Creek Public Sewers. 1-7

Mo., Washington—City, reported, votes in spring on \$30,000 sanitary sewer and disposal bonds.

Miss., Vicksburg—City construct sewer system on city cemetery road to include West St., South St. and Wabash Ave.

Mo., Joplin—City, Charles A. Patterson, Mayor, plans voting on \$70,000 bonds for storm sewers; \$10,000 fire equipment bonds. 12-31

N. C., Charlotte—City, reported, call for new bids Feb. 23 on 2600 ft. of storm sewer, 50,000 ft. of sanitary sewers and 15,400 ft. of water lines; contractors invited to bid on pipe and laying. 2-11

Okla., Oklahoma City—City, reported, plans construction of 2 centrifugal machines at north side sewage disposal plant; cost \$25,000; L. H. Scott, Filtration Engr.

Okla., Oklahoma City—City, L. M. Bush, City Engr., reported, plans sewers, Virginia Ave.; cost \$28,000.

Tex., Arp—City, C. R. Wilson, Chrmn. Building Bd., reported, plans sanitary sewerage system.

Tex., Dallas—E. A. and Lee Volbig, reported, has contract at \$91,579 for construction of Mill Creek Turtle Creek diversion storm sewer tunnel; bids will probably be asked March 2 on Mill Creek outlet storm sewer. 12-31

Tex., Gilmer—City, L. N. Coe, Mayor, plans improvements and extension to sanitary sewers; expend \$25,000.

Va., Madison Heights—W. E. Sandridge, Clk., Amherst County, Circuit Court, Amherst, advises matter of establishing sanitary district at Madison Heights set for hearing in Circuit Court on Mar. 23.

Va., Richmond—Henrico County, Julien Gunn, Circuit Court Judge, votes again March 16 on \$50,000 sewage disposal plant bonds of Sandston Sanitary Dist. No. 2; former election held void. 2-4

### Telephone and Radio Systems

Ala., Birmingham—Chamber of Commerce, Darius Thomas, B. B. Comer, Committee,

reported, closed lease with corporation for operating Station WAPI; expend \$250,000 for improvements; increase capacity of transmitter from 5000 to 25,000 watts; modernize remote control.

Mo., Springfield—Southwestern Bell Telephone Co., Telephone Bldg., St. Louis, reported, expend \$58,000 for improvements, including laying new cables.

N. C., Charlotte—Earl Gluck, Mgr., Radio Station WBT, reported, plans 50,000-watt transformer plant on Nations Ford road; install \$100,000 equipment; approval granted by Federal Radio Comsn. 12-24

W. Va., Charleston—Radio Station WREX, owned by Roanoke Water Works Co., Roanoke, Va., applied to Federal Radio Comsn., Washington, for permission to move to Charleston.

### Textile Mills

Ala., Anniston—Utica Knitting Co., Mill No. 9, George Schneider, Res. Mgr., constructing addition to plant; construction under supervision of Duke-Stickney Construction Co., Anniston; at present time will not purchase additional equipment. 1-21

Ga., Lafayette—J. M. Allen & Co., Chamberlain Bldg., Chattanooga, Tenn., reported, will erect mill unit for Peerless Woolen Mills; 3 stories; 300x100 ft.; conc. foundations; struc. steel; brick walls; tar and gravel roof; sprinkler system; cost \$100,000; W. H. Sears, Archt., James Bldg., Chattanooga, Tenn.

Md., Cumberland—Celanese Corp. of America, F. T. Small, Ch. Engr., advises erecting \$22,000 dyehouse extension; 5 bay, 115 ft. 6 in. x 170 ft., saw tooth roof, bonded roofing on wood deck, steel framing with 8-in. tile on west wall, temporary walls on north and east sides, rein. conc. floor; John I. Vandergrift, Gen. Contr.; Cumberland Contracting Co., sub-contractor, both Cumberland. 11-12

N. C., Asheboro—Goode Construction Co., 111½ E. Fifth St., Charlotte, erecting building on Church St., north of Park Mill and connected with it for Acme Hosiery Mill; building will be 102x140 ft., 2 stories, rein. conc.; contract for heating, wiring and sprinkler system will be let later; estimated cost of building, machinery and equipment \$200,000; also reported that building will be occupied by McCrary Hosiery Mills; install full fashioned hosiery machines. 2-11

S. C., Chester—Eureka Mills, reported, received bids Feb. 18 for new mill units and alterations to other units; make interior alterations, partitions, etc., to 1 unit; erect 2-story, 153x80-ft. unit; 1-story, 218x128-ft. unit; 2-story, 75x100-ft.; conc. foundations; struc. steel, c. i. columns, brick walls, steel sash, insulation, tar and gravel roof, wood and cement floors, sprinkler system, etc.; A. K. Adams Construction Co., 542 Plum St., N. W., Atlanta, Ga., bidding; J. E. Sirrine & Co., Engrs., Greenville.

Tex., Houston—McMint & Co., Inc., I. T. Rhea, Pres., 12th Floor Q. & C. Bldg., New Orleans, La., constructing building of about 50,000 sq. ft., Barrow and Meadow Sts., practically doubling capacity; 1 story; steel and conc.; 290x199 ft.; cost \$40,000.

### Water Works

**Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.**

Ala., Tuscaloosa—City votes March 14 on \$75,000 bond issue for enlarging filter capacity at Riverview water works pumping station.

Fla., Jacksonville—See Want Section—Bids Asked.

La., Jena—City, A. D. Flowers, Mayor, reported, let contract to B. White Drilling Co., Alexandria, for additional water well.

Md., Baltimore—American Brake Shoe & Foundry Co., Fulton Station, has contract for manhole frames and covers for Bureau of Water Supply. 2-11

Md., Towson—Leon Small, Bureau of Water Supply, Baltimore, will have plans ready in about 2 weeks for water tank (elevated), 300,000 gal. capacity, steel encased in brick and limestone, 100 ft. high, at Towson, 250 ft. north of Ware Ave.

Mo., Louisiana—City, reported, considering water works distribution system.

Tex., Arp—City, C. R. Wilson, Chrmn. Building Bd., reported, plans water works.

Va., Falls Church—City, L. P. Daniels, Mayor, considering bids for pumps, no extension of water works proposed. 2-11

Va., Winchester—State Bd. of Health, through its Ch. Engr., recommended that city secure new source of water supply; committee not appointed; P. P. Pilcher, City Mgr. and City Engr.

W. Va., West Union—Paul S. Hornor Co., Clarksburg, has contract for \$15,000 extension to old water works system; erect conc. reservoir 50 ft. diam. and 17 ft. high; use c. i. pipe; U. S. States Pipe & Foundry Co., Burlington, N. J., has contract for pipe; Geo. R. Clark, Engr., Williamstown. 2-11

### Woodworking Plants

Fla., Jacksonville—See Miscellaneous Construction.

Va., Martinsville—Virginia Furniture Co., Inc., merged with American Furniture Co., Inc.; operate as American Furniture Co.

### FIRE DAMAGE

Ark., Cotton Plant—I. V. Echols' residence; loss \$10,000.

Ark., Dumas—Mrs. Georgia Cain's residence; loss \$5500.

Ark., Malvern—Frisby Bldg., W. Page Ave., occupied by Ben Morris Meat Market and Grocery; West Page Midway Garage, operated by Leonard Moody, and Malvern Furniture Co. storeroom; loss \$10,000.

Ark., Oden—Plaster General Store; S. N. Hickey's general store; Glen Hickey Feed & Produce Co.; A. J. Plemmons' general store, residence, warehouse and garage; K & P garage and service station owned by Louisiana Oil Refining Co.; loss about \$30,000, including stocks.

Ark., Russellville—Ben Bentley's residence, S. Commerce St.

Fla., Palm Beach—Matheson News Co.'s store, 103 S. Dixie Highway.

Ga., Savannah—T. A. Terry's residence, Montgomery Rd., 10 miles from Savannah.

La., Lake Providence—Wilson & Brown cotton gin, Epps Highway; loss \$40,000.

La., Morgan City—McClellan's Drug Store; Schwing's confectionery, Arcade Theater, Adams' barber shop; loss \$25,000.

La., Morgan City—Oscar Beadle's residence; loss \$7000.

Md., Hayden—Algernon Benney's post office, general store and residence.

Md., Hagerstown—Lowry Product Co., owned by Emmett M. Lowry and Western Maryland Ry.

Miss., Gloster—Outlet Dry Goods Co., in McGehee Bldg.; loss \$15,000.

Miss., Vicksburg—Geo. T. Houston's residence, Warren County; loss \$25,000.

Mo., Bagnell—Peterson's Grocery and Restaurant; Baer General Store; Asel's Meat Market; M. Plaster's Model Cafe; loss \$12,000.

Mo., St. Joseph—Warehouse, 2410-24 S. Fifth St., of Schreiber Milling & Grain Co.; loss \$15,000; A. B. Schreiber, Pres., 2821 Sacramento St.

N. C., Charlotte—Building of Carolina Auto Supply Co.; loss \$100,000.

N. C., Gastonia—Building of Best Hatcheries.

Okla., Tulsa—Parking Trucking Warehouse, 915 W. Wheeling Ave.; loss \$70,500.

S. C., Marion—R. W. Winn's tobacco warehouse; loss \$20,000; Marion Coca Cola Bottling Co.; C. T. Sloan, owner-operator; loss \$35,000; several dwellings.

Tenn., Tazewell—Big Four Warehouse; loss \$25,000.

Tex., Belton—Henderson Hardware Co.'s warehouse, loss \$15,000; R. L. Henderson, owner.

Tex., Cooper—Clyde Landers' residence.

Va., Bealeton—Planing mill operated by R. C. Cain.

Va., Freeling—Office, power house and powder house of Splash Dan Smokeless Fuel Co.

W. Va., Mount Hope—Lawton-Lane garage, W. D. Lawton, Propr.; loss \$25,000.

W. Va., Salem—Roy Swiger's bakery, Mill and Water Sts., loss \$12,000; D. M. Bartle's garage, W. Main St., loss \$40,000; building owned by Hobart Summerville, Weston.

# BUILDING NEWS

## BUILDINGS PROPOSED

### Association and Fraternal

Md., Annapolis—Masonic Temple Assn., L. D. Cassaway, member, opens bids March 1 for interior alterations and erection of rear addition; \$20,000; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore. Following prospective estimators: Saml. T. Atwell, Taney Ave.; C. M. Bassford, 50 Franklin St.; Bean Bros.; Carlson & Carlson; S. Busey Dove, 3 Acton St.; Maurice E. Meade, State St., Eastport; Jos. S. Griscom, Bay Ridge Ave., Eastport, all Annapolis.

Md., Towson, Baltimore—Independent Order of Odd Fellows, J. Howard Murray, member, Reckord Bldg., Towson, plans brick bldg., York Rd.; 2 stories, about 24x75 ft.; architect not selected.

Okla., Alva—American Legion receiving bids, to be opened about Feb. 20, for bldg.; brick, tile, steel and wood, 2 stories, 50x130 ft., conc. foundation, metal doors, plaster board, cast stone, hardwood floors, built-up roof, steel sash and trim, ventilators, wire glass; G. Ernst V. Blumenauer & Associates, Archts., Broadway Tower, Enid. Address Kent M. Johnson, Chmn., Bldg. Comm. 2-11

### Churches

Ga., Atlanta—Peachtree Rd. Methodist Church, Rev. Richard J. Broyles, Pastor, plans addition.

La., Mowata—St. Lawrence R. C. Church has low bid at \$13,300 from Seymour Construction Co., Beaumont, Tex., for bldg.; O. J. Southwell, Archt., New Iberia, La. 1-28

Md., Westminster—Church of the Brethren, Rev. Geo. Early, Pastor, erect brick bldg.; 2 stories and tower, 45x80 ft.; Isaac Hoffer, Archt., Elizabethtown, Pa.; bids Feb. 18.

Mo., Pine Lawn, St. Louis—St. Paul the Apostle R. C. Church, Rev. A. E. White, Pastor, 4003 Jennings Rd., reported, plans \$150,000 bldg.; brick, steel, rein. conc., 1 story and basement; H. P. Hess, Archt., 1001 Ambassador Bldg., St. Louis.

Tex., Fort Worth—University Christian Church having general plans nearing completion by W. G. Clarkson & Co., Archts., 610 First Natl. Bldg., for stone and rein. conc. bldg.; 3 stories and basement, about 64x142 ft., tile and wood floors, tile roof; foundation in.

Tex., Houston—Richey Evangelistic Temple, Rev. Raymond T. Richey, Pastor, rebuild St.; start work at once on temporary structure.

Tex., Marshall—Cumberland Presbyterian Church, Rev. W. T. Ingram, Pastor, plans \$50,000 bldg., N. Washington and Grand Aves.; brick, steel and conc., metal roof, 85x48 and x 54 ft., 7600 sq. ft., 22 classrooms, auditorium seat 357, social room seat 250, banquet hall, 2000; W. C. Meadows, Archt., Fort Worth; soon let contract.

Tex., San Antonio—St. Johns Lutheran Church, S. Presa and Nueva Sts., has low bid at \$72,250 from W. H. Wolter, 1907 E. Commerce St., for bldg.; plumbing and heating, \$1100, from Jud & Ormond; elec. work Martin Wright Electric Co., 1001 Navarro St., at \$1052; Marvin Eickenroht, Archt., 710 Maverick Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; J. S. Beretta Engineers, Inc., Engrs., 1203 Natl. Bank of Commerce Bldg. 2-4

### City and County

Ala., Jasper—Walker County Bd. of Com. Mrs. E. W. Long, Judge of Probate, selected Chas. H. McCauley, Jackson Bldg., Birmingham, as archt. for rebuilding burned court house; \$75,000. 2-4

Fla., Jacksonville—City call for bids in few days for \$10,000 fire station, Lake Shore Drive and Palmer St.; wall bearing brick, 2 stories, 34x42 ft., wood joist and tile floors, conc. foundation, 20-yr. tar and gravel flat built-up roof; Roy A. Benjamin, Archt., 21 Ocean St. 2-4

Md., Baltimore—City, Howard W. Jackson, Mayor, Bernard L. Crozier, Ch. Engr., considering remodeling mayor's offices, City Hall; \$60,000 to \$75,000; Buckler & Fenhagen, Archts., 325 N. Charles St.

Mo., St. Louis—Bd. of Public Service, E. R. Kinsey, Pres., plans to call unit bids for constr. of \$5,000,000 Municipal Auditorium to determine amount of constr. possible with \$3,700,000 available; 7 stories and basement, rein. conc., brick, steel and stone, 322x493 ft.; plans by Plaza Commission, Inc. 1-28

S. C., Charleston—Charleston County erect \$10,000 truck experiment station, St. Andrews Parish, 7 miles from Charleston; office bldg. and laboratory; later erect foreman's dwelling, barns and supply houses; plans by Rudolph E. Lee, Archt., Clemson College.

W. Va., Wheeling—City Council plans to remodel bldg., Oglebay Park, for golf clubhouse.

### Dwellings

Ala., Birmingham—W. W. Fulghum, 1063 S. 24th St., has low bid at \$11,500 from Geo. Paul for residence; stone veneer, 2 stories and basement, 50x68 ft., slate roof, steam heat; Jas. L. Gatling, Archt., 811 Bkrs. Bond Bldg.

Ga., Atlanta—Albert Howell, Jr., 1711 Rhodes Haverly Bldg., has low bid at \$27,873 from T. C. Wesley & Son, Red Rock Bldg., for residence; Tucker & Howell, Archts., 1711 Rhodes-Haverly. 2-11

Ga., Augusta—E. S. Farley will not let contract now for \$18,000 residence; J. B. Mobley, low bidder. 2-11

La., Lockport—Holy Savior R. C. Church opens bids Feb. 23 (extended date) for rectory; details and estimators lately noted; Wm. R. Burk, Archt., Balter Bldg., New Orleans. 2-11

La., New Orleans—Geo. E. Pearce, 5635 Coliseum St., considers erecting residence, Fairway and Loam Linda Drives; work probably start within 5 or 6 months.

Miss., Vicksburg—John Hadad, Washington St., erect \$12,000 brick veneer and frame residence, Polk St.; 1 story, 62x65 ft., oak, tile and asphalt tiletex floors, asbestos shingle roof, plaster board; Michael J. Donovan, Archt., 2743 Washington St.; bids Feb. 17.

Miss., Vicksburg—Geo. T. Houston, care Houston Bros., rebuild residence in Warren County noted burned at \$25,000 loss.

Okla., Tulsa—J. B. McGaughey, Mgr., McNie Engineering Co., plans residence, Yorktown Place, Seven Acres Place addition.

Tex., Carthage—M. L. Yarbrough opens bids Feb. 23 at Carthage Dry Goods Co., for residence; plans from John Carpenter, Archt., Marshall.

### Government and State

Ala., Fort McClellan, Anniston—Constructing Quartermaster has low bid at \$6626 from Smallman-MacQueen Construction Co., Inc., 1109 Fifth Ave., S., Birmingham, Ala., for stable, Fort McClellan; conc. and brick, 2 stories, 32x72 ft., conc. and clay floors, slate roof, conc. foundation.

Ala., Maxwell Field, Montgomery—Constructing Quartermaster, Maxwell Field, has low bid at \$9962 from Watson Manufacturing Co. for screens.

Ark., Pine Bluff—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, probably start work about May 1 on post office annex.

D. C., Washington—Constructing Quartermaster, Bolling Field, has low bids at \$274,000 each from Nicola Building Co., 638 Penn. Ave., Pittsburgh, Pa., and DeSibour Construction Co., Washington, for Air Corps barracks. 2-4

D. C., Washington—Architect of The Capitol, David Lynn, opens bids Feb. 25 for fire protection for Capitol and Senate Office Bldg.; \$100,000, Pierson & Wilson, Asso. Archts., 1621 Connecticut Ave. Prospective estimators: English Construction Co., 1315 H St.; H. W. Cord Co., 1003 K St.; Geo. E. Wyne, 2539 Pennsylvania Ave.; Bahen & Wright, 916 Rhode Island Ave., N. E.; Arthur L. Smith & Co., 2539 Pennsylvania Ave.; Skinner & Garrett, 1719 I St.; Industrial Engineering & Construction Co., 1909 Minnesota Ave., S. E., all Washington; J. J. McDewitt Co., 505 Bldrs. Exch., Charlotte, N. C.; W. E. Bickerton & Co., 515 Cathedral St.; North-Eastern Construction Co., 6 W. Madison St., both Baltimore, Md.; English Construction Co., 15 W. 91st St., New York; Barash & Diamond, 60 Bergen Ave., Brooklyn, N. Y.; Bickelhaupt, Inc., 1737 Summit Ave., Richmond, Va.; Niedringhaus, Inc., Goodfellow and Natural Bridge Aves., St. Louis, Mo. 12-10

Fla., Bradenton—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, selected Henry L. Taylor, Times Bldg., St. Petersburg, Fla., and Wm. Woodburn Potter, Real Est. Trust Bldg., Philadelphia, Pa., as

asso. archts. for \$155,000 post office and court house, Manatee Ave. and Ninth St. 11-19

Ky., Paducah—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, opens bids Feb. 29 for remodeling and enlarging post office and court house; \$130,000. 3-12-31

La., Barksdale Field, Shreveport—Constructing Quartermaster has low bid at \$46,446 from H. W. Underhill Construction Co., Construction Bldg., Dallas, Tex., for fire station and guard house, Barksdale Field. 2-4

La., New Orleans—Dept. of Justice, Bureau of Standards, Washington, has low bid at \$7255 from Frick Co., Shoreham Bldg., Washington, for refrigeration equipment for Federal jail; Diboll & Owen, Ltd., Archts., Canal Bank Bldg., New Orleans. 2-11

Md., Westminster—Prospective estimators on \$100,000 post office, bids Feb. 25 by Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington; Geo. H. Evans, 1124 Fairmount Ave.; Nicholas Co., 4848 Lancaster Ave.; Gernet-Ryan Co., 1700 Walnut St.; Schaefer & Co., 1600 Arch St., all Philadelphia, Pa.; Davis Construction Co., 9 W. Chase St.; L. L. Chambers, Inc., 36th St. and Roland Ave.; M. A. Long Co., Long Bldg.; Mulligan Contracting Co., 3945 Greenmount Ave.; North-Eastern Construction Co., 6 W. Madison St.; David M. Andrew Co., Sisson and 26th Sts.; Minter Homes Corp., Dundalk; C. W. Schmidt, Hearst Tower Bldg., all Baltimore, Md.; James Howell Davis, R. F. D. No. 6; Wm. H. Saylor, R. F. D. No. 5; M. Claude Erb, all Westminster; Smythe & Co., 1416 F St., N. W.; Skinner & Garrett, 1719 I St., N. W.; R. Lloyd Goode, Inc., Insurance Bldg.; Joe B. Martin, 907 15th St., N. W., all Washington; H. W. Torbert, 323 Ocean Ave., Ocean City, N. J.; Saml. W. Eline, Hanover, Pa.; Goode Construction Co., 11 E. Fifth St., Charlotte, N. C.; Allen F. Feeder, Taneytown, Md. 2-11

Mo., Springfield—State Highway Coman. Jefferson City, soon start work on \$100,000 division highway office bldg., Atlantic St. and Weller Ave.; fireproof, brick, stone trim, 2 stories and basement, cooling system.

N. C., Mount Airy—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, having working drawings completed for \$145,000 post office; Geo. R. Berryman, Archt., 102 W. Hargett St., Raleigh, N. C. 10-1

N. C., Wadesboro—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, drawing new plans for post office; probably ready for new bids by March 10; 2 stories. 1-14

Okla., Altus—Altus Armory Co., care Chamber of Commerce, considering erecting \$10,000 armory.

Tex., Galveston—Additional prospective estimators on \$375,000 immigration station and detention bldg., bids Feb. 25 by Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington; General—A. J. Rife Construction Co., 1913 N. Harwood St.; H. W. Underhill Construction Co., Constr. Industries Bldg.; Bellows-Maclay Construction Co., Construction Bldg., all Dallas, Tex.; Strandberg Bros. Co., Transportation Bldg.; James McHugh Sons, Inc., 840 W. 70th St., both Chicago, Ill.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Algernon Blair, First Natl. Bk. Bldg., Montgomery, Ala.; John Largura & Co., 3672 Adams St., Gary, Ind.; J. W. Zempter, 1413 35th St., Galveston, Tex.; Ring Construction Co., Wesley Temple Bldg.; Madsen Co., National Bldg., both Minneapolis, Minn.; S. & W. Construction Co., Shrine Bldg., Memphis, Tenn.; Robt. E. McKee, 1900 Texas St., El Paso, Tex.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; Elevators—Warner Elevator Manufacturing Co., 2613-31 Spring Cove Ave., Cincinnati, O. 2-11

Tex., Harlingen—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, purchased site for \$145,000 post office.

Va., Tenn., Bristol—Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington, rejected bids for post office; redesign and call for bids later. 12-17

Va., Yorktown—Additional prospective estimators on conc. magazine and other bldgs. and structures, conveyor housings, conveyors, piping and equipment, Naval Mine Depot, bids Feb. 24 by Navy Dept., Bureau of Yards and Docks, Washington; Bulban-Gordon Co., Inc., 1457 Broadway; Fredk. Page Contracting Co., Inc., 45 E. 17th St.; Ingalls Iron Works Co., 117 Liberty St., all New York; J. C. Curtis, Denbigh, Va.; Globe Iron Construction Co., Princess Anne Rd. and Park Ave.; American Sheet Metal Corp., 2713 Coly Ave., both Norfolk, Va.; Virginia Bridge & Iron Co., Roanoke, Va.; Newport Contracting & Engineering Co., Inc., Lee Hall, Va.; W. E. Rowan, Fayetteville, N. C.; Miller Mfg. Co., Stockton and Sixth Sts., Richmond, Va.; Webster Manufacturing Co.,



1856 N. Kostner Ave.; Saml. Olsen Co., Inc., 1234 N. Kostner, both Chicago, Ill.; H. M. Lucas, 115 Bruce Place, Portsmouth, Va.; Worsham Bros., Med. Arts Bldg., Knoxville, Tenn.; and care Naval Air Station, Anacostia, Washington, D. C.; Eternit Co., St. Louis, Mo.; Jeffrey Manufacturing Co., 6110 York Rd., Baltimore, Md.; Mechanical Handling Systems, Inc., 3454 Denton St., Detroit, Mich.; Johns-Manville Sales Corp., Broad St. Sta. Bldg.; Robt. L. Latimer & Co., 24 N. Front St., both Philadelphia, Pa.; Nicola Building Co., Penn. Ave. and Denniston St., Pittsburgh, Pa.; Allied Construction Industries, 626 Broadway, Cincinnati, O.; Ambler Asbestos & Sheathing Co., Ambler, Pa.; A. H. Guion & Co., Inc., Gastonia, N. C.; Smith-Pew Construction Co., Hampton, Va.; C. M. Guest & Sons, Anderson, S. C.; Seacoast Iron Works, Inc., Red Bank, N. J. 2-11

W. Va., Beckley—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, probably have plans for Federal bldg. ready for approval by April; S. H. Bridge, Beckley, and Alex B. Mahood, L. C. Bldg., Bluefield, W. Va., archts. 9-17

W. Va., Weston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has plans completed for post office; Stephen W. Ford, Archt., Latstetter Bldg., Clarksburg, W. Va. 10-8

### Hospitals, Sanitariums, Etc.

Ark., Bentonville—City, R. O. Pickens, Mayor, has \$60,000 to \$75,000 from will of late Mrs. A. J. Bates, D. W. Peel, Jr., executor, for hospital.

D. C., Washington—Dept. of Interior, St. Elizabeths Hospital, hopes to have plans for male receiving bldg. ready for printing within 2 weeks; red brick, 5 stories, Spanish tile roof. 1-21

Ky., Lexington—Veterans Administration, Arlington Bldg., Washington, opens bids March 8 for addition to garage bldg. No. 3; work includes excavating, rein. conc., hollow tile, brick work, terra cotta, steel sash, metal rolling doors, metal shower stalls, built-up roofing, skylights, roof ventilators, carpentry, painting, glazing, hardware, plumbing, heating, elec. work and outside service connections; drawings from Constr. Service, Room 764, Arlington Bldg. 1-14

Md., Glenn Dale—Dist. Commrs., Dist. Bldg., Washington, rejected bids for \$60,000 nurses' home, Childrens Tuberculosis Sanatorium; revise plans; Municipal Archt., Dist. Bldg., probably have plans for entire project completed in April; Thos. B. Kidner, Const. Archt., 175 Fifth Ave., New York. 1-21

Md., Jessups—State Bd. of Welfare, R. D. Case, Sec.-Treas., Union Sq. Bldg., ready for bids in about 10 days for alterations to hospital, House of Correction; new roof, improving floors, etc.; \$20,000; Henry G. Perring, Archt.-Engr., Court Sq. Bldg., both Baltimore. 1-21

Mo., Springfield—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids Feb. 24 (extended date) for staff residences for \$2,500,000 Hospital for Defective Delinquents for Dept. of Justice; drawings from office Supvg. Archt.; estimators lately noted. 2-4

S. C., Columbia—Richland County Hospital, reported, plans addition; Jas. B. Urquhart, Archt.; probably soon call bids.

Tex., Austin—State Bd. of Control have new plans for store and creamery bldgs., Austin State Hospital, ready about March 1; plans by Engineering Div. of Bd. of Control; brick, struc. steel, stucco and rein. conc., 2 stories, 40x25 ft., and 1 story 49x32 ft. 1-21

Va., Norfolk—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids March 7 for excavation and wood piles, constructing bldgs. D and E, U. S. Marine Hospital; drawings from office Supvg. Archt. 2-11

### Hotels and Apartments

Md., Baltimore—York Apartment Co., care Marion J. Nasco, Archt., 14 E. Lexington St., let contract to Frank Tranzillo, 2039 Park Ave., for 39-suite brick apartment, York Rd. and 38th St.; 6 stories, 45x110 ft. struc. steel, cast stone trim, slate roof, steam heat. 12-10

N. C., Elizabeth City—J. H. LeRoy, Sr., started work on \$15,000 to \$20,000 hotel; 42 rooms, 2 stories, porches, showers, elec. lights, L-shaped.

N. C., New Bern—Lord Craven Hotel Corp., Raymond Fuson, Pres., Bloomington, Ind., Lily H. Banks, Sec.-Treas., New Bern, plans \$500,000 hotel; Raymond Fuson, Archt., 209 Hook Drug Co. Bldg., Bloomington; Bevington-Williams, Inc., Const. Engrs., 1124-39 Indiana Pythian Bldg., Indianapolis, Ind.; rein. conc. constr., brick and stone exterior, 9 stories and basement, 91x121 ft., steel windows, 2 elevators, steam heat, air

conditioning system, conc. foundation, 1000-ft. piling sea wall; plans complete; ready for bids about March 15. 2-11

Tex., Houston—M. C. Jarvis has permit for 2 apartments, 1739-41 Bolsover St.; 4 suites each; \$14,000.

### Railways Stations, Sheds, Etc.

Okla., Oklahoma City—Atchison, Topeka & Santa Fe Ry., H. W. Wagner, Ch. Engr., Eastern Lines, Topeka, Kan., reported, have plans out in March for \$600,000 passenger station and express depot, site present structure; Indiana limestone, brick backing, 386x104 ft., including wings, 50-ft. front elevation. 1-112

### Miscellaneous

Md., Fullerton—J. Byrd plans conc. block and frame dairy barn; 1 story and basement, 100x50 ft.; owner builds.

### Schools

Ark., Clarksville—College of the Ozarks, Dr. Wiley Lin Hurie, Pres., accepted plans by O. A. Clarke, Rogers, for \$75,000 Raymond Munger Memorial Chapel; fireproof, cut stone, steel and conc., air conditioning system. 11-19

Ark., Fayetteville—University of Arkansas has completed plans by Haralson & Nelson, Archts., Fort Smith, for library; Modified Gothic, stone, 2 stories, accommodate 250,000 books, reading room space for 600.

Ga., Athens—M. Dwsokin & Sons, 32 Fifth Street, Northwest, Atlanta, Ga., have painting and decorating work contract for law building and dormitory, University of Georgia, on which plastering and finishing is under way on dormitory and struc. frame of law bldg. being completed; Hentz, Adler & Shutze, Archts., 1330 Candler Bldg.; Robt. S. Fiske, Const. Engr., 1421 Healey Bldg., both Atlanta; Potter & Shackelford, Inc., Contrs., Allen Bldg., Greenville, S. C. 1-14

Ga., Quitman—Brooks County Bd. of Education plans school to serve following dists. recently consolidated: Mount Oliff, Cates, Oak Hill, Welcome Hill and River Hill; 6 classrooms, auditorium; plans by State Dept. of Education, J. L. Graham, School Archt., Atlanta.

Md., Annapolis—Navy Dept., Bureau of Yards and Docks, Washington, has low bid at \$5870 from McCay & Kirtland, 23 W. Mt. Royal Ave., Baltimore, Md., for improvement to terraces, Bancroft Hall, Naval Academy. 1-28

Md., Fairland, R. D. from Beltsville—Montgomery County Bd. of Education, Rockville, plans school; brick, 2 stories; Howard W. Cutler, Archt., 1108 16th St., Washington; probably call for bids for first unit in spring.

Md., Germantown—Montgomery County Bd. of Education, Rockville, probably soon ready for bids for 2-story brick gymnasium; Howard W. Cutler, Archt., 1108 16th St., Washington.

Md., Laurel—Dist. Commrs., Dist. Bldg., Washington, have low bid at \$21,744 from J. Geo. Bensen Co., 3005 Shannon Dr., Baltimore, Md., for alterations and additions to heating plant, District Training School near Laurel. 2-4

Md., Manchester—Additional prospective estimators on high school, bids March 2 by Carroll County Bd. of Education, Westminster; L. L. Chambers, Inc., 36th St. and Roland Ave.; Chas. L. Stockhausen Co., 33 S. Gay St.; Lachli Construction Co., Munsey Bldg.; Century Construction Co., Hearst Tower Bldg.; Fidelity Engineering Corp., 6300 Belair Rd., all Baltimore, Md.; O. H. Hotstetter, Klunk Bros., both Hanover, Pa.; Geo. W. Reed, Greenmount, Md.; I. H. Crouse & Sons, Littlestown, Pa.; Ross Hoffacker, Manchester; Allen Feeser, E. E. Stulter, both Taneytown, Md.; Claude Erb; Wm. H. Saylor, Route No. 6, both Westminster; Julius A. Kline, 809 Amer. Bldg., Baltimore; Bernard Starr, Archt., 7 S. Second St., Harrisburg, Pa. 2-11

Md., North East—Cecil County Bd. of Education, Elkton, Howard T. Ruhl, Supt., opens bids Feb. 26 for \$60,000 high school; brick, 2 stories; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore. 10-29

Md., Westminster—Carroll County Bd. of

Education probably ready for bids in fall for 2-story brick high school; Bernard Starr, Archt., 7 S. Second St., Harrisburg, Pa.

Miss., Jackson—Millsaps College, Dr. D. M. Key, Pres., having revised plans drawn for physical education bldg.; brick and hollow tile, stone trim, 1 story, basement and sub-basement, 176x115 ft., rein. conc. frame and floor slab, steel truss roof; H. N. Austin, Archt. 12-17

Mo., Kansas City—School Bd. having plans drawn by Charles A. Smith, Architect, 1009 Baltimore Street, for Lincoln High School for Negroes, Woodland Avenue and 21st Street; work probably start in summer; \$500,000 to \$600,000, Tudor Gothic, 260x186 ft., fireproof, 3 stories with center section 4 stories to provide cafeteria, elevator, 29 classrooms, auditorium to seat 1200, 2 gymnasiums with removable partition, swimming pool, library; athletic field.

Mo., St. Louis—Washington University, J. H. Zumbalen, Treas., does not consider erecting stadium.

N. C., Charlotte—City School Commrs., Chas. Blackburn, Treas., advise nothing definite about \$50,000 second ward school and probably will not be for 60 days. 12-17

N. C., Walnut—Madison County Bd. of Education, Marshall, C. M. Blankenship, member, plans 2-story brick school; date of bids not determined.

Okla., Lost City—Bd. of Education erect \$17,000 grade and high school; A. J. Love & Co., Archts., Atco Bldg., Tulsa.

Tex., Dallas—City Bd. of Education having plans for Long Junior High School drawn by Bryan & Sharp, Construction Industries Bldg.; Herbert M. Greene, LaRoche & Dahl, Construction Bldg., lately incorrectly reported as architects; see 2-4 for details. 2-4

Tex., Galveston—Galveston Public Schools plan \$35,000 high school cafeteria.

Tex., Longview—Longview Ind. School Dist. of Gregg County rejected bids for senior high school; revise plans; \$130,000 available; Mark Lemmon, Archt., 1910 Tower Petroleum Bldg., Dallas. 11-26

Tex., San Antonio—City Bd. of Education, Mrs. J. E. King, Pres., has low bid at \$11,649 from J. E. Dickey, 216 Eleanor St., for physical education bldg., Sidney Lanier Junior-Senior High School; Morris, Noonan & Wilson, Archts., Bldrs. Exch. Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg. 2-4

Tex., San Antonio—City Bd. of Education, Mrs. J. E. King, Pres., have plans ready for approval in about 2 weeks for negro senior high school, Harrison, Burleson, Gevers and Hudson Sts.; Spanish type, struc. clay tile and rein. conc., tile and tar and gravel roof, 2 stories, 240x148 ft., L shape, 8 classrooms, auditorium with stage, cafeteria, kitchen, library, dressing room, locker rooms, toilets, showers; 1-story, 62x112-ft. woodworking and mech. shop bldg. connected by covered arcade; Harvey P. Smith, Natl. Bk. of Commerce Bldg., and Emmett T. Jackson Bldrs. Exch. Bldg., Asso. Archts.; L. D. Royer, Mech. Engr., Smith-Young Tower; W. E. Simpson Co., Engr., 942 Milam Bldg.; Phelps & DeWees, School Archts., Gunter Bldg.

Va., Salem—Roanoke County School Bd. interested in \$217,000 bldg. program; to present to County Bd. of Supvrs. Feb. 15.

### Stores

D. C., Washington—Frederick B. Pyle, Archt., Evans Bldg., opens bids Feb. 16 for 3 stores; Schneider-Splietd Co., 1416 F St., estimating.

Ga., Augusta—David Slusky remodel and enlarge store, Broad St.; 2 stories and basement, conc. foundation, brick, tar and gravel roof, plate glass front, wood floors; Willis Irvin, Archt., S. F. C. Bldg.; bids in.

### Warehouses

Tex., Houston—Mente & Co., Inc., 406 Clark St., bagging, have permit for \$40,000 warehouse, Bayou and Meadow St.; steel and conc.

## BUILDING CONTRACTS AWARDED

### Association and Fraternal

La., New Orleans—Knights of Columbus' \$450,000 lodge and hotel bldg. plans ready about March 5 for sub-bids from New Or-

leans firms; Denis Flynn, old Knights of Columbus Bldg., New Orleans, in charge of bldg. comm. affairs; John Keeley, Jr., Gen. Contr., 4114 State St., East St. Louis, Ill.; Geo. R. Bartling, Inc., Archts., 802 Paul



Brown Bldg.; L. M. Dieckmeyer, Const. Engr., Ambassador Bldg., both St. Louis, Mo.; details lately noted. 1-21

Miss., Philadelphia—Post No. 138, American Legion, purchased 320-acre tract for park; erect clubhouse, swimming pool, playground, etc.; \$10,000; constr. work started under direction of Grady Shoemaker.

### Churches

Ark., Camden—First Methodist Church, J. D. Reynolds, member Bldg. Committee, let contract to J. D. Johnson, Hot Springs National Park, for remodeling bldg. damaged by storm; to Hughes Electric Co., Camden, for wiring; lighting, heating and plumbing not let; Wittenberg & Delony, Archts., 807 Southern Bldg., Little Rock. 2-4

La., New Orleans—Emanuel Evangelical Church erect 2-story addition, Broad and Iberville Sts.; 24x38 ft.; Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg.; Reimann Construction Co., Contr., Maritime Bldg.

### City and County

Fla., Tampa—Hillsborough County Comsn. let contract at \$14,300 to Logan Bros., 207 N. Willow Ave., for single story annex to court house; fireproof vaults; brick, conc.; M. Leo Elliott, Inc., Archt., 415 Tampa St. 2-11

Mo., St. Louis—Bd. of Public Service let contract to Voepel Building Co., 1113 Sidney St., for \$15,000 comfort station, Fairgrounds Park; brick and conc.; W. W. Horner, City Engr. 1-28

### Dwellings

D. C., Washington—Myra Wood Davis, 3 Valley View Ave., Takoma Park, erect brick residence, 710 Ninth St., S. E.; 2 stories, tin roof, hot water heat; J. A. Melby, 414 Florida Ave., N. W., Archt.; owner builds.

D. C., Washington—F. C. Kendrick, 4930 47th St., erect brick and frame residence, 4935 47th St.; 2 stories, comp. shingle roof, hot water heat; J. W. Kearney, Archt.; Geo. T. Gilleland, Contr., 6512 Ridgewood Ave.

D. C., Washington—Harry E. Davis, 3026 Wisconsin Ave., erect brick and frame residence, 4629 Asbury Place; 2 stories, comp. shingle roof, hot water heat; owner builds.

D. C., Washington—D. C. Gruver, 927 15th St., erect 6 brick dwellings, 2401-13 39th St.; 2 stories, tin roofs, hot water heat; total \$35,000; owner builds.

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permit for \$16,500 dwelling, 4935 Hillbrook Lane, N. W.; 3 stories; owners build.

D. C., Washington—E. L. & L. B. Taylor, and R. L. Wood, all 6409 Florida St., Chevy Chase, Md., erecting \$15,000 dwelling, 2750 Brandywine St., N. W.; stone, 2 stories, 60x30 ft., wide oak and tile floors, slate or asbestos shingle or possibly tile roof, steel sash and trim, hollow and interior tile; address equipment proposals to Edwin L. Taylor; plans, engineering and constr. by owners. 2-11

Ga., Atlanta—J. R. Jordan & Son, 671 Morningside Dr., N. E., erect 2-story and basement, brick veneer residence, 625 E. Pelham Rd., N. E.; 9 rooms, 2 baths, comp. shingle roof, hardwood and tile floors; owner builds.

Ga., Atlanta—T. T. Flagler, care Flagler Construction Co., Red Rock Bldg., erect brick residence, Collier Rd.; 1 story and basement, 6 rooms, 2 baths, brick and conc. foundation, hardwood and tile floors, comp. shingle roof; owner builds.

Ga., Atlanta—Ed Miles, 801 Argonne St., N. E., erect brick veneer residence, Shadow Lawn, near Buckhead; 1 story and basement, conc. foundation, hardwood and tile floors, comp. roof, hot air heat; Sam Burgess, Contr., 1230 Gordon St., S. W.

Md., Baltimore—Chas. H. Henkel, Bldr., 2740 Edmondson Ave., plans 2 dwellings, Hillcrest; frame and stucco, 1½ stories, 26x32 ft.

Md., Baltimore—Dr. Harry M. Stein, 104 W. Madison St., let contract to Tilghman V. Morgan, 10 E. Fayette St., for \$15,000 stone residence, St. Dunstan's Rd.; 2 stories; Palmer & Landin, Archts., 513 N. Charles St.

Md., Baltimore—O. T. & W. A. Carr, Mills Bldg., starting work on 2 brick and hollow tile dwellings, 4705-09 49th St., N. W.; 2½ stories, 26x30 ft., hardwood, linoleum and tile floors, cast stone, elec. refrigerators, plaster board, slate and asphalt shingle hip roofs, steel sash; W. A. Carr, Archt.

Md., Baltimore—Northern Realty Co., 4515 Pimlico Rd., erect \$10,000 dwelling, 3305-07 Bancroft Rd., after plans by Julius Myerberg, 210 N. Calvert St.; 2 stories, 30x60 ft.; owner builds.

Md., Baltimore—Purnell Estate, Real Estate Dept., Union Trust Co., Agents, erect dwellings, Keswick; number not determined; brick and stone, 2½ stories, slate roofs, gas and/or oil heat; Geo. Wessel, Archt., 601 W. 40th St.; constr. by agents; work start in about 2 months.

Md., Brooklandville—S. A. Parker excavating for \$40,000 residence; stone, 2½ stories, oak plank, linoleum and comp. floors, stone foundation, incinerator, limestone, metal ceilings, steel sash, gypsum and hollow tile; Tilghman V. Morgan, Inc., Contr., 10 E. Fayette St., Baltimore.

Md., Halethorpe—Edw. A. Hall erect frame residence; Northeast and Washington Aves.; 2½ stories, 35x25 ft.; Sears, Roebuck & Co., Archts.-Constr., 2121 N. Charles St., Baltimore.

Mo., St. Louis—Frank A. Egan, 713½ Chestnut St., erect stores and dwellings, 2713-18-20-22 Gravois St.; brick, 2 stories, 75x60 ft., comp. roofs; \$12,000; plans and constr. by Saum Architects, 713½ Chestnut St.

### Government and State

D. C., Washington—Otis Elevator Co., 810 18th St., N. W., has contract for 13 signal control elevators, 1 car switch control elevator and 5 dumb waiters for \$8,500,000 U. S. Supreme Court Bldg.; Cass Gilbert, Archt., 244 Madison Ave., New York; George A. Fuller Co., Contr., Munsey Bldg., Washington; David Lynn, Architect of The Capitol. 1-21

D. C., Washington—General Bronze Corp., 480 Hancock St., Long Island City, N. Y., has contract at \$9870 for directory boards, etc., \$17,000,000 Department of Commerce Bldg.

Fla., St. Petersburg—Veterans Administration, Arlington Bldg., Washington, let contract at \$637,925 to James I. Barnes, Barnes Bldg., Logansport, Ind., for Veterans Administration Home; work includes excavating, conc. piling, rein. conc., hollow cement blocks, hollow tile, brick work, architectural terra cotta, cut stone, slate stair treads, marble work, terrazzo, floor and wall tile, compressed asphalt tile and linoleum floors, iron work, flagpole, steel sash, steel stairs, steel shelving, cabinet and partitions, tile, metal and built-up roofing, roof ventilators, metal lathing, stucco, plastering, sound deadening, carpentry, metal weatherstrips, insect screens, platform scales, etc. 1-14

Fla., St. Petersburg—Veterans Administration, Arlington Bldg., Washington, let contract at \$200,399 to J. J. Nolan & Co., 235 Court St., Memphis, Tenn., for plumbing, heating and elect. equipment for Veterans Administration Home; refrigeration and ice making plant, Pennsylvania Engineering Co., 1119 N. Howard St., Philadelphia, Pa.; steel water tank and tower, E. O. Pole Co., Susan, Ga., at \$6368; elevators, Otis Elevator Co., 810 18th St., N. W., Washington; sewer treatment control house, J. B. McCrary Co., Cit. & Sou. Bk. Bldg., Atlanta, Ga. 1-14

Ky., Harrodsburg—Quartermaster General War Dept., Washington, Capt. Chas. I. Bazire, Constructing Q. M. for Harrodsburg Monument, let contract to A. LePoidevin & Co., Inc., 286 Fifth Ave., New York, for sculptural work for \$100,000 memorial to first permanent settlement west of Alleghenies; sculptural work under above contract to be executed by Elric H. Ellerhusen, 16 E. 23rd St., New York; Francis Keally, Archt., 101 Park Ave., New York. 2-11

Kv., Lexington—Louisville & Nashville Railroad Co., Nashville, Ky., has contract at \$49,240 for spur track, etc., site for \$5,000, 000 Narcotic Farm. 1-7

Miss., Biloxi—Bryce Plumbing & Heating Co., Florence Trust Bldg., Florence, S. C., has plumbing, heating and elect. work contract at \$198,634 for \$1,000,000 Veterans Administration Home; elevators, Otis Elevator Co., 810 18th St., N. W., Washington, at \$20,248; steel water tank and tower, Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., at \$7480; refrigerating and ice making plant, Columbus Iron Works Co., Columbus, Ga., at \$13,948; National Construction Co., Tower Bldg., Washington, contrs. for main section which includes hospital bldg., convalescent bldg., store house, gate house, sewerage disposal works, pump house No. 11 with screen chamber, treatment control house No. 13 with settling and digestion tank, flag pole, bituminous roads, conc. service courts, conc. walks, grading and drainage; Rogers & Leventhal, Inc., 822 E. 11th St., Chattanooga, Tenn., contrs. for nurses' and officers' quarters. 2-11

Okla., Norman—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract at \$67,800 to Christy-Dolph Construction Co., Constr. Industries Bldg., Dallas, Tex., for post office. 2-4

Tex., Randolph Field—Barker Bros. Studio,

4010 Main St., Houston, has contract at \$19,000 for furnishings, including furniture, drapes, rugs, etc., for lounge and reception room of bachelor officers' mess bldg. and for officers' club. 12-24

Va., Hampton Roads, Norfolk—Following sub-contracts let on \$200,000 administration bldg., Naval Air Station, for which Virginia Engineering Co., Inc., First Natl. Bank Bldg., Newport News, Va., has gen. contract; Composite pils., Raymond Concrete Pile Co., 140 Cedar St., New York; cement, Lehigh Portland Cement Co., Fordwick, Va.; sand and gravel, Richmond Sand & Gravel Corp., 3011 Dock St.; asphalt, tile floor, W. Morton Northern & Co., Inc., Central Natl. Bank Bldg., both Richmond, Va.; steel windows, metal partitions, metal doors, struc. steel, misc. iron, steel roof deck, Hall-Hodges Co., Inc., Citizens Bank Bldg.; roofing and sheet metal work, Norfolk Sheet Metal Works, 415 W. 23rd St.; glass and glazing, Building Supplies Corp., 1900 Monticello Ave., all Norfolk; lathing and plastering, Floyd Jennings Co.; painting, Nestor, Inc., both Newport News; limestone, Reed-Powers Cut Stone Co., Bedford, Ind.; hollow tile, Merry Bros., Augusta, Ga.; millwork, Portsmouth Lumber Corp., High St., Portsmouth, Va. 1-14

### Hospitals, Sanitariums, Etc.

Ga., Augusta—Veterans Administration Hospital, care Capt. P. M. Feltham, Veterans Administration Hospital, Atlanta, Ga., reported, let contract to King Construction Co., North Tonawanda, N. Y., for greenhouse; steel and glass, 80x25 ft. 2-4

Md., Perry Point—Veterans Administration Bldg., Arlington Bldg., Washington, let contract for \$10,000 incinerator bldg., Veterans Administration Hospital, to Pittsburgh-Des Moines Steel Co., Neville Island Sta., Pittsburgh, Pa. 2-11

S. C., Columbia—Moffatt Machinery Co., 520 W. Third St., Charlotte, N. C., has elevator contract at \$18,736 for \$1,300,000 Veterans Administration Hospital; W. S. Barstow, Gen. Contr., 417 Washington St., Reading, Pa. 12-31

### Hotels and Apartments

Mo., St. Louis—A. F. Pfeiffer, 4829 Calvin St., erect \$10,000 tenement, 2000-02 Linton St.; 2 stories, 33x51 ft., asphalt shingle roof, hot air heat; John Hoffmeyer, Archt., 1910 DeSoto St.; owner builds.

### Miscellaneous

La., New Orleans—Phil Schneller, 4141 Orleans St., erect bldg., Magazine and Terpsichore Sts.; asbestos roof, plate glass, hardwood floors, orna. iron.

Mo., St. Louis—J. R. Thompson Co. remodel restaurant, 620 Washington St.; \$30,000; 3 stories, brick; B. H. Marshall Co., Archt., 612 Sheridan Rd.; Quillmette Construction Co., Contr., all Chicago, Ill.

### Schools

S. C., Denmark—Voorhees Normal & Industrial School let contract to Southeastern Construction Co., Charlotte, at \$13,635, for girls' trades bldg.; brick, 2 stories, 80x32 ft., conc. floors, built-up roof, vapor heat; S. J. Makielski, Archt., Charlottesville, Va. 1-28

Tenn., Whitehaven—Laclede Steel Co., St. Louis, Mo., has contract for 110 tons conc. bars for \$125,000 Shelby County school; Geo. Mahan, Jr., Archt., City Sav. Bank Bldg.; B. E. Buffalo & Co., Inc., 658 East St., Contrs., both Memphis. 1-14

### Stores

Ga., Savannah—Mrs. S. Elcholz, 1416 Bull St., remodel bldg., Whitaker and York Sts., for 5 stores; work start in about 6 weeks; Bush Construction Co., Inc., Contr.

Md., Baltimore—H. Jos. Hyman, Indianapolis, Ind., erect brick store bldg., 1920 Maryland Ave.; 25x108 ft.; Saml. C. Smullian, Archt., 3721 Belle Ave.; Franklin Realty & Finance Co., Contr., 405 W. Franklin St.

Miss., Greenville—Emile Rosenfeld let contract to H. N. Alexander & Sons, Greenville, to remodel Rosenfeld Bldg., Washington Ave. and Shelby St., occupied by Fair Store; steel beams to support second floor and roof, supported by steel columns, to be finished in panel effect, steel ceiling and walls finished in natural plaster, Johnsonville Bonded roof, conc. floor; Wiseman Electric Co. has electric lighting contract.

Miss., Ellisville—Cecil Guy erect brick business bldg., Main St.; 2 stories, comp. roof; pool and billiard hall on first floor, offices and apartments above; Mr. Bush, Contr., Laurel.

N. C., Asheville—T. S. Morrison & Co., Lexington Ave., farmers' supplies, let contract to L. L. Merchant Construction Co., Biltmore

Ave., to remodel bldg.; work started; Lord & Lord, Archts., 17½ Church St.; S. R. Goldman, Engr., Public Service Bldg. 2-11

Tenn., Nashville—E. C. Armistead, Independent Life Bldg., Trustee, has permit for 10 stores and filling station, Harding Rd. near Wilson Ave.; \$50,000, stone and brick, conc. floors, 1 story; Geo. D. Nevins, Archt.-Contr., Independent Life Bldg.

Tex., Gonzales—T. J. Knight remodel and

enlarge store; new front, 30x40-ft. addition, brick; mezzanine, metal ceiling, wood floors; Will N. Noonan, Archt., Bldrs. Exch. Bldg., San Antonio; Fred Miesenhelder, Contr., Gonzales.

Tex., San Antonio—Robt. Sadler, Laredo, Tex., care Geo. Surkey, 914 San Pedro Ave., San Antonio, plans store, Camden and Lexington Sts., to be leased to Handy Andy Co.; brick and rein. conc., 1 story with foundation

for additional stories, 36x90 ft., plate glass front; contract let.

### Warehouses

Okla., Ada—State Highway Comsn., Sam Hawks, Chmn., State Capitol, Oklahoma City, started work on 3 warehouses by day labor; brick, 1 story, 50x150 ft., 50x150 ft. and 150x125 ft.

## WANT SECTION

### THE CLASSIFICATIONS IN THIS SECTION ARE:

#### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

*Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.*

#### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

#### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

### Machinery and Supplies

**Alcohol Purifying Equipment.**—Doctor Domingo Ulrich, Calle del Medio No. 48, Caracas, Venezuela, South America, plans plant in Caracas for making medicinal alcohol. Wants prices and data on machinery for purifying alcohol of all impurities (small bits of powder, etc.) and all other necessary equipment; prefers used machinery if in good condition.

**Diamond Core Drill.**—J. T. Bush, 121 E. Glenwood Ave., Knoxville, Tenn.—Wants prices and data on used, belt-driven diamond core drill, "E" or "M", or "Beauty" or "S", steam driven drill.

**Engine Generator.**—Harlan & Harlan Machine Works, 308-10 Broadway, Kansas City, Mo.—Wants prices and data on 150 to 175-kw., 220-volt, 3-phase, 60-cycle generator, direct connected to good make of automatic engine, preferably 4 valve, used.

**Guyana Machine Shops, Logan, W. Va.**—Wants prices and data on:

- (1) **Motors (D. C.)**—250 volt, 7½ and 10 h. p., crane type; 20 h. p., 1750-r. p. m. pump motor; 15 h. p. 1200-r. p. m. pump motor.
- (2) **Motors (A. C.)**—3 phase, 60 cycle, 440 volts, 3 to 100 h. p., ball bearing, 900 to 3600 r. p. m.
- (3) **Transformers**—5 to 50 kv-a., 6600 and 2300 to 220-440 volt, 60 cycle.

**Holst.**—W. J. H., 3402 Altamont Road, Birmingham, Ala.—Wants prices and data on 20-h. p. double drum scraper loader holst, rope speed 300 f. p. m., 250 volts, d. c.

**Road Building Equipment and Materials.**—Following want prices, catalogs and descriptive data on road building equipment and materials: Pedro Guerra, Director de O. P. Provinciales, Habana, Cuba; S. Kriger, Pres., Thrift & Investment, Finance and Trust Corp., Harbin, China; Ph. D. Pancheha, Thrift & Investment, Finance and Trust Corp., Shanghai, China; L. C. Hughes-Hallett, H. M. Consul, British Consulate, Detroit, Mich.; J. M. Masatchkoff, Amtorg Trading Corp., New York (2 sets catalogs); Gustavo P. Serrano, Minister of Communications and Public Works, Mexico City, Mexico; Francisco P. Hoyos, General Agent, National Railways of Mexico, New York.

**Surfacer.**—R. P. Johnson (Mchy. Dealer), Wytheville, Va.—Wants prices and data on 30-in. double surfacer, with round heads, used, first class operating condition.

**Woodworking Machine.**—Shepard-Huffaker Lumber Co., Inc., 800 Hannan Ave., Knoxville, Tenn.—Wants combination woodworker.

### Miscellaneous

**Concrete Forms (Burial Vault).**—Saunders-Cropper, Inc., 316 First Natl. Bank Bldg., Newport News, Va.—Wants literature, data and prices on forms for concrete burial vaults.

**Galvanized Iron (Corrugated), etc.**—State Highway Comsn., W. Z. Betts, Pur. Agt., Raleigh, N. C.—Wants prices and data on corrugated galv. iron, 24 gauge, as follows: 130 sheets, 8 ft. x 26 in.; 108 sheets, 7 ft. x 26 in.; 85 sheets, 6 ft. x 26 in.; 82 sheets, 5 ft. x 26 in.; 30 sheets plain galv. iron, 24 gauge, 10 ft. x 24 in.; 85 lb. 2-in. bob-lead head nails; corrugated sheets to have 2-in. corrugations, copper-steel; 275 l. f. 26 gauge galv. iron ridge roll, 10-in. girth, with 8 closed end, 1 flat 4 way flnal; 50 l. f. 26 gauge galv. iron flashing 12 in. wide.

**Wheels.**—S. O. Roberts, Inman, S. C.—Wants prices and data from manufacturers

of rubber tired wheels for coaster wagons, etc.; either disc, or spoke.

### Building Material and Equipment

**Huber Construction Co., Moultrie, Ga.**, wants prices on following for \$17,000 school, Dixie, Ga.:

#### Plaster Board

**Roofing**—asbestos shingle

**Tile**—hollow.

### Bids Asked

**Blowers.**—U. S. Coast Guard Headquarters, Washington, D. C.—Bids Feb. 29 for 200 ventilating blowers for small boats, delivery Commandant, Coast Guard, Curtis Bay, Baltimore, Md.

**Bridge.**—Maryland. See Construction News—Bridges, Culverts and Viaducts.

**Bridges.**—Clayton, St. Louis, Mo. See Construction News—Roads, Streets and Paving.

**Bridge.**—Florida. See Construction News—Bridges, Culverts and Viaducts.

**Building Remodeling.**—Treasury Dept., Office Supv. Archt., Washington, D. C.—Bids Feb. 26 for remodeling basement of U. S. post office, etc., West Plains, Mo.

**Dam.**—Powhatan, Va. See Construction News—Miscellaneous Construction.

**Dextrine, etc.**—Treasury Dept., Bureau of Engraving and Printing, Washington, D. C.—Bids Mar. 24 for dextrine, oils, textiles and dry colors during fiscal year beginning July 1, 1932.

**Dragline Booms.**—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids Mar. 1 for contractor's plant of 2 155-ft. aluminum alloy and steel dragline booms.

**Drawing Instruments.**—Office of Chief of Engrs., Munitions Bldg., Washington, D. C.—Bids Feb. 24 for 250 sets drawing instruments.

**Electric Lighting Fixtures.**—Commanding Officer, Washington, Q. M. Depot, 20th and C Sts., N. W., Washington, D. C.—Bids Feb. 29 for electric lighting fixtures.

**Electric System.**—Construction Service, Veterans' Administration, Washington, D. C.—Bids Mar. 1 for electric distribution system at veterans administration hospital, North Little Rock, Ark.

**Electric Distributing System.**—Capt. A. M. Parker, Constructing Quartermaster, San Antonio, Tex.—Bids March 3 for construction of electric underground distribution and street lighting system at Fort Sam Houston.

**Fire Hose.**—Town of Oxford, Miss.—Bids Mar. 1 for 500 ft. 2½-in. 3-ply fire hose, suitable for pumper service; 50-ft. lengths, equipped with couplings with city's standard threads.

**Floating Plant Repairs.**—U. S. Engr. Office, Louisville, Ky.—Bids Feb. 23 for docking and repairing floating plant.

**Hoists.**—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids Feb. 23 for 3 ball bearing chain hoists, 2 ton capacity.

**Janitor Supplies.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Feb. 24 for janitor supplies for Dept. of Education; Joshua R. Jolly, Act. Sec., Bd. of School Commrs.

**Machinery Repair Parts.**—U. S. Coast Guard Headquarters, Washington, D. C.—Bids Mar. 31 for furnishing repair parts and accessories for machinery installed on coast guard vessels as required during fiscal year 1933.

**Microscope.**—Div. of Purchase, Sales and Traffic, Dept. of Agriculture, Washington, D. C.—Bids Feb. 23 for monobjective binocular microscope with ultrapaque illuminator, for Washington.

**Miscellaneous Supplies.**—General Supply Committee, Washington, D. C.—Bids Mar. 2 for wide variety of supplies as required during fiscal year 1932.

**Painting.**—Office of Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Mar. 2 for painting 27 buildings at naval hospital, Parris Island, S. C.

**Paper, etc.**—Purchasing Clk., Bureau of Engraving and Printing, Washington, D. C.—Bids Mar. 12 for 15,000 lb. tan plaster board, 8000 reams separator paper, 1500 reams water repellent bristol board, 22,500 rolls wiping paper, 28,000 rolls same and 26,000 rolls same, as required during fiscal year 1933.

**Paper Boxes, Paper, etc.**—Treasury Dept., Bureau of Engraving and Printing, Washington, D. C.—Bids Mar. 16 for paper boxes, paper box blanks and paper, during fiscal year beginning July 1, 1932.

**Paper Box Blanks and Paper Boxes.**—Purchasing Clk., Bureau of Engraving and Printing, Washington, D. C.—Bids May 12 for 780,000 paper box blanks and 118,000 chipboard boxes as required during fiscal year 1933.

**Paving.**—Washington, D. C. See Construction News—Roads, Streets and Paving.

**Pinion.**—U. S. Engr. Office, Jacksonville, Fla.—Bids Feb. 23 for master pinion, carbon cast steel.

**Pipe.**—U. S. Engr. Office, P. O. Box 45, Jacksonville, Fla.—Bids Feb. 23 for 5 sections 10-in. lapwelded black steel discharge pipe.

**Propellers.**—U. S. Coast Guard Headquarters, Washington, D. C.—Bids Mar. 31 for bronze propellers furnished and installed for patrol, picket and station boats as required during fiscal year 1933.

**Road.**—Alabama. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Maryland, 2 roads. See Construction News—Roads, Streets and Paving.

**Road.**—Mississippi. See Construction News—Roads, Streets and Paving.

**Road Materials.**—State Highway Comsn., A. P. Tugwell, Chmn., Baton Rouge, opens bids Feb. 23 for washed and screened gravel, 40% sand-clay gravel, reef shell, clam shell, crushed limestone, slag and sand as required by maintenance dept. during March.

**Roads.**—Clayton, St. Louis, Mo. See Construction News—Roads, Streets and Paving.

**Road.**—Washington, D. C. See Construction News—Roads, Streets and Paving.

**Roof.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Feb. 24 for rebuilding roof on band stand, Clifton Park; Winfield F. Courts, Park Engr.

**Stationary Supplies.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Mar. 14 for stationary supplies, delivery Philadelphia, Pa.

**Streets.**—Baltimore, Md. See Construction News—Roads, Streets and Paving.

**Street.**—New Orleans, La. See Construction News—Roads, Streets and Paving.

**Synchronous Motor Driven Pumping Unit.**—City of Jacksonville, Fla., Ernest E. An-



**ders, Chmn., City Comsn.**—Bids Feb. 24 for furnishing and delivering f. o. b. city, synchronous motor driven pumping unit, motor to be used as synchronous condenser and pump to be used for domestic water service.

**Sub-station Equipment.**—Office of Architect of the Capitol, David Lynn, Washington, D. C.—Bids Mar. 10 for furnishing and installing in new House of Representatives Office Bldg., Washington, electrical sub-station equipment complete.

**Submarine Cable.**—Sewerage and Water Bd., Office Pur. Agt., Room 502, 526 Carondelet St., New Orleans, La.—Bids Feb. 23 for 2950 ft. 3 conductor 000 submarine cable.

**Trucks.**—U. S. Coast Guard Headquarters, Washington, D. C.—Bids Feb. 25 for light truck for Flagler Beach Station, Bunnell, Fla., and 1 of same for Sullivan's Island Station, Charleston, S. C.

**Panama Canal, Office of Gen. Pur. Officer,** Washington, D. C.—Bids Feb. 26 for following, Sch. 2729:

Electric ranges, switchboard and motor generator set, dimmer switchboard, border lights, and extra gelatines, foot light and extra gelatines, electric motor, bench grinders, grinders or buffers, machinist vises, ammeters, adjustable resistors, receptacle boxes, welding rods, railway tie plates, polished plate glass, etc.

Navy Dept., Bureau of Supplies and Accounts, Washington, D. C.—Bids until dates indicated for:

**Springs**—wire and helical, for various east coast points, Feb. 23

**Acid**—hydrochloric, nitric and sulphuric, for various east and west coast points, Mar. 1

**Metal Saw Grinding Machine**—3 wheel, automatic, motor driven, for Mare Island, Calif.

**Recorder Tape**—paper, 3000 rolls, for Mare Island, Calif., Mar. 1

**Aviators' Jackets**—jungle cloth, 1500, for Philadelphia, Pa., Mar. 1

**Rosin**—40,000 lb., lump, for Mare Island, Calif., Mar. 1

**Paint Thinner**—volatile mineral spirits, for various east and west coast points, Mar. 1

**Pump Valves**—rubber, for various east and west coast points, Mar. 8

**Calcium Carbide**—for various east and west coast points, Mar. 1

**Cloth**—crocus and aluminum oxide; flint and garnet paper, for various east and west coast points, Mar. 1

**Calcium-chloride**—for various east and west coast points, Mar. 1

**Hose**—pneumatic tool, for New York, N. Y., and San Francisco, Calif., Feb. 23

**Electric Cable**—for Philadelphia, Pa., February 23

**Bomb Racks**—100, for Philadelphia, Pa., Feb. 23

**Aircraft Tachometers**—100, for Philadelphia, Pa., Feb. 23

**Planer**—surface, double, motor driven, for Norfolk, Va., Feb. 23

**Oars**—straight, ash, for Philadelphia, Pa., and Great Lakes, Ill., Feb. 23

**Adhesive Plaster**—for Brooklyn, N. Y., Feb. 23

**Battery**—3-urn, heavy duty, for Mare Island, Calif., Feb. 23

**Naphtha**—8000 gal. coal tar, for Norfolk, Va., Feb. 23.

Div. of Purchase and Contract, W. Z. Betts, Asst. Director, Raleigh, N. C.—Bids Feb. 23 for:

**Galvanized Steel Sheets (Unannealed)**

**Steel**

**Cross Cut Saws**

**Saws**—one man

**Handcuffs**

**Pad Locks**

**Common Wire Nails**

**Wrought Iron Pipe**

**Bush Hooks.**

## Trade Literature

**Road Finisher.**—Bulletin No. 47-E on the application of Lakewood Type "C" road finisher to bituminous roads and streets has been issued by the Lakewood Engineering Company, Columbus, Ohio. This new publication describes several methods now in use for mechanically finishing both hot and cold types of bituminous pavements. Applications of the Lakewood Type "C" road finisher are shown.

**Gas Producer.**—The Semet-Solvay Engineering Corporation, New York, has issued Bulletin No. 45 on the Semet-Solvay Koller Type Gas Producer. The design is described as outstanding in the production of gas of higher calorific value, while high operating efficiency is easily and continuously maintained.

**For Builders.**—"101 Questions That Should Be Answered Before You Build" is the subject of a booklet issued by the Austin Company, Cleveland, Ohio. The booklet is designed to provide a brief memory check with a view to eliminating the possibility of overlooking important questions relative to major building investment.

**Business Law.**—The third (1932) edition of Business Law, from the press of the Ronald Press Company, New York, is a volume of 702 pages, described as a "working manual of everyday law with over 100 constantly needed forms." The author is Thomas Conyngham of the New York Bar; author of "The Modern Corporation," and co-author of "Corporation Procedure" and "Wills, Estates and Trusts." The book is priced at \$6.00.

## INDUSTRIAL NEWS

### Roos Heads Diebold Safe and Lock

A. J. Roos, vice-president, assistant general manager and treasurer of the Diebold Safe & Lock Co., Canton, Ohio, has been elected president and general manager, succeeding C. C. Upham, recently deceased. Mr. Roos has been with the company for 25 years and in close touch with the policies of Mr. Upham. Under his initiative and supervision the company's Product Research Laboratory was developed, as the result of which new products developed have attracted wide attention. Ralph K. Rex was elected chairman of the board of directors and H. C. Weible, secretary and treasurer. These, with J. A. Fellows, vice-president in charge of operations, H. A. Noble, vice-president in charge of sales, and W. C. Miller, vice-president in charge of research, comprise the officials.

### Reports Record Earnings

For 1931, as in each of the preceding 21 years of its operation, the Pennsylvania Water & Power Company, New York, with a Baltimore office in the Lexington Building, shows an increase in gross revenue and also in net revenue before charges for renewals and replacements, according to its annual report. Gross earnings for 1931 were \$5,064,070 as compared with \$4,835,557 for 1930; earnings before renewals, replacements and fixed charges, \$3,454,710 as against \$3,210,218; fixed charges \$1,040,162 as compared with \$897,275; balance after renewals and replacements \$2,056,141 as compared with \$1,957,797, and earnings per share on capital stock \$4.78 as compared with \$4.55.

### Pipe Firm in New Location

The Wides Pipe & Supply Co., formerly at 1326 Freeman avenue, Cincinnati, Ohio, is now located at 1720-26 John street (Findlay and John streets), Cincinnati. The company deals in new and used pipe and fittings.

**Metal Protection.**—The Skybryte Company, Cleveland, Ohio, is distributing a folder devoted to Rust-Tox, a product developed by the company for refinishing rusted metal surfaces and to combat erosion. According to the manufacturers, it will effectively seal any rusted surface; prevent further rusting, and prepare the surface for a long-life paint job.

**Tulsa Wholesale Trade.**—The Tulsa Chamber of Commerce, Tulsa, Okla., has published a 93-page volume covering an analysis of the Tulsa Wholesale Trade Area. Data were prepared by the Research Department of the Chamber of Commerce and by Daniel Starch, Consultant in Commercial Research. The volume is priced at \$2.00.

**European Lumber Market.**—The Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, has issued Trade Information Bulletin No. 786, by Axel H. Oxholm, Director, National Committee on Wood Utilization, presenting a plan for development of the European lumber market based on a recent field survey by the author.

### Page Fence Association Meetings

At the Atlanta divisional meeting of the Page Fence Association, with headquarters in Bridgewater, Conn., held January 28-29, were representatives of distributors in Atlanta, Birmingham, Charlotte, Charleston, Chattanooga, Nashville, New Orleans, Orlando and Savannah. It was also attended by C. N. Johns, general manager of the Association; W. H. Bleecker, general sales manager; S. B. Cairns, Fence Division Manager; H. M. Bridgewater, secretary, and R. J. Teeple, sales manager of the Southern district. As Page fence now includes fence made in aluminum, addresses by F. L. Magee and P. T. Teague, of the Aluminum Company of America, added interest to the meeting. The Page Fence Association is composed of 82 chosen firms throughout the United States promoting the sales of Page Chain Link and Wrought Iron Fence, under the guidance of the Page Steel and Fire Company, which is controlled by the American Chain Company, Inc., Bridgewater.

### Moore Kilns for Lumber Plant

Work is progressing on a new plant at Tillman, S. C., for the W. M. Ritter Lumber Company, including construction of four compartment-type Moore dry kilns. This is both a hardwood and pine operation, although the plant will begin by cutting pine only and later go into production of various hardwoods, including gum, ash, oak and cypress. The kilns have been designed with this in view. They are automatically controlled and have the patented Moore multiple heating system, making it practicable to dry both hardwoods and softwoods. Equipment for the kilns was engineered and manufactured by the Moore Dry Kiln Company, Jacksonville, Fla. The company is also furnishing heavily insulated Moore kiln doors with aluminum panels to resist kiln acids, and automatic temperature and humidity-recorded controllers.



### Caterpillar Tractor Report

President B. C. Heacock's annual report to stockholders of the Caterpillar Tractor Co., Peoria, Ill., discloses net sales in 1931 of \$24,143,138, as compared with \$45,355,434 for 1930; cost of sales, operating expense, etc., \$20,351,337, as compared with \$33,373,065, and net profit applicable to dividends of \$1,361,200, as compared with \$8,714,801 for 1930. Mr. Heacock points out that last year's net profit, from a greatly decreased sales volume as compared with 1930, "is evidence that costs and operating expenses are being adjusted to present conditions." Several new machines were made available for production during 1931, but in every important instance too late to materially affect the year's sales volume.

### Hammond Succeeds M. W. Bush

Horace Hammond, vice-president of the Alabama By-Products Corporation, Birmingham, Ala., has been elected president, succeeding Morris W. Bush, lately deceased. Mr. Hammond is also president of Hammond Iron Company and Smokeless Fuel Company, subsidiary of the Alabama By-Products Corporation. He was long associated with the late Col. T. G. Bush in various coal, coke, iron and railroad activities, and was actively associated with Morris W. Bush for more than 25 years. The Alabama By-Products Corporation is said to have the largest coke oven plant in the South, operating on a strictly commercial basis, distributing coke throughout a large section of the United States, as well as exporting it regularly to Canada, Cuba and Mexico.

### Opens Baltimore Office

To meet a growing demand for Detroit stokers, built by the Detroit Stoker Company, with its main office and works at Monroe, Mich., and sales and engineering department in the General Motors Building, Detroit, the company has established a new office at 308 Hearst Tower Building, Baltimore, Md., under the management of L. M. Hofstetter. This is in addition to the Philadelphia office at 611 Morris Building, and the Washington office at 410 Bond Building, both under the supervision of J. M. Keylor, district manager.

### Reading Iron Reduces Prices

The Reading Iron Company, Reading, Pa., general executive and sales offices, 401 North Broad street, Philadelphia, announces a reduction in price on its standard weight, extra heavy, and double extra heavy Genuine Puddled Wrought Iron Pipe of two points of discount, Pittsburgh basing, as per card P-80; also a like reduction on suggested minimum resale prices, as per card P-80 R. S. A., both effective February 15. Values of distributors' stocks as of February 15, 1932, will be adjusted to this new basis through the company's district sales offices.

### Beaumont Bin Company

The Bin Division of the Beaumont Manufacturing Company, Philadelphia, has recently reorganized as the Beaumont Bin Company, and will specialize in the design and manufacture of all types of bins, including storage and aggregate bins, central mixing plants, bulk cement handling, automatic weigh batchers and all types of bin gates. Equipment offered is shown in a new bulletin ready for distribution. The main office of the company is at 319 Arch street, Philadelphia, with branch offices in New York, Chicago, Cleveland and Detroit.

### Pyramid Life Insurance Company

Directors of the Pyramid Life Insurance Company, Charlotte, N. C., at a recent meeting in that city, reelected the present officers of the company. John P. Pender, secretary-treasurer of the company, reported that the organization has been writing policies for 10 months and that today the average policy is \$3375 and the average non-participating premium \$23.50. Dr. Hamilton W. McKay, medical director of the company, reported no death claim as yet. The company writes 34 different kinds of ordinary life insurance. Officers include E. E. Jones, president; J. Luther Snyder, chairman of the board; Charles P. Moody, vice-chairman; Ivey W. Stewart and Ernest Ellison vice-presidents; John R. Pender, secretary-treasurer; Dr. Hamilton McKay, medical director; Hunter Marshall, Jr., general counsel; Ernest E. Harden, assistant secretary-treasurer, and Dr. Frank I. Ray, assistant medical director.

### Copeland Refrigerators

The Copeland line of electric refrigeration now numbers more than 100 models and sizes, including refrigeration equipment not only for every household and commercial purpose, but also room cooling devices and gasoline-engine driven refrigeration equipment for use on farms, in dairies, country hotels and stores, summer camps, ranches, resorts and for points not reached by electric power. Copeland refrigeration equipment is manufactured by Copeland Products, Inc., Mount Clemens, Mich.

### General Illumination Course

A general course in illumination will be held April 4 to 8 at the General Electric Lighting Institute, Nela Park, Cleveland, O. While covering much the same material as that covered in previous general lighting conferences, special emphasis will be given in the program to commercial lighting subjects, store lighting, gas station lighting, etc., said to be less influenced by general business conditions than industry, street lighting and fields of like nature.

### Virginian Railway Appointments

The Virginian Railway Company, S. M. Adsit, traffic manager, Norfolk, announces appointment of H. C. Mitchell as general freight agent in charge of solicitation, with offices at Norfolk, the appointment effective February 8. Effective February 15, R. E. Ross is appointed commercial agent, with offices at 2-216 General Motors Building, Detroit, Mich.

### Alaga Syrup on the Air

The Alabama-Georgia Syrup Company of Montgomery, Ala., inaugurates its first air program February 22, featuring Alaga syrup. President L. B. Whitfield, Jr., will make the opening announcement over station WLW in Cincinnati. Under the present schedule, a 15 minute broadcast will be made on Monday, Wednesday and Friday nights.

### Byers Adds Distributors

The Byers Machine Company, Ravenna, Ohio, announces that the W. T. Walsh Equipment Company, Cleveland, and the Boehck Equipment Company, Milwaukee, have been added to their distributor organization. These distributors will handle the complete Byers line of 26 different machines, including the new  $\frac{3}{4}$ -yard Golden Anniversary Shovel.

### Katy Changes Announced

President M. H. Cahill of Missouri-Kansas-Texas Lines, St. Louis, Mo., announces that headquarters of J. F. Hickey, executive representative, have been transferred to St. Louis and his scope of activities extended to include the entire lines; S. L. Altschuler has been appointed executive general agent, with headquarters at Kansas City, Mo., and C. Halle, Jr., has been appointed executive general agent, with headquarters at Houston, Texas.

### Restoring Progress

Under the heading, "Southern Sky Is Clearing," the Nashville Banner in a recent leading editorial makes the following pertinent comments on the present business situation:

"No aspect of the economic situation in the United States is more clearly defined than the steady emergence of the South from the period of depression. The recuperative powers of the section, fortified by natural resources of unequalled variety and value are in plain action. The business and financial structure of the South has displayed greater stability than that of any other section of the country.

"The effects of the farspread depression have not vanished. This would have been impossible under the basic community of interest between various sections of the nation, but the impact of the ordeal has been more successfully resisted in the South than elsewhere.

"The people of the section are obtaining a clearer and more comprehensive vision of the economic forces at work for the advancement of these States, and, with that realization, their confidence and courage are being reinforced. Capital, both local and from a distance, is again moving out for investment; industrial plants are either restoring the number of their operatives to former proportions or, in many instances, are increasing them.

"The Southern farmer took time by the forelock and prepared for this winter with more foresight than ever.

"The South has known less actual distress from unemployment than any other section. Here, again, one of its assets given by nature—its climate—is proving its worth.

"Its citizens increasingly are turning their back upon the past, of the last two years, with its clouds and are feeling the warmth of the new day of restored progress and of assured expanding prosperity."

### Activities in and Around

#### Anniston, Ala.

The annual report recently issued by the United Chambers of Commerce of Anniston, Ala., shows that construction in the metropolitan area last year aggregated \$1,242,000, and that a number of new industries located in the district during the year, and that established industries went forward with improvement programs.

# Cotton Insulation

By RALPH V. GRAYSON, Consulting Engineer, Atlanta, Ga.

**D**URING the past two years, acting in the capacity of designing and consulting engineer in two quick-freezing plants, I have been greatly impressed with the large refrigeration loss which results when very low temperatures are reached. In casting about for cheap and efficient insulation my attention was directed to cotton. Tests were made to determine its insulation value. They proved that cotton was efficient for the purpose and furthermore, it was found that poor quality cotton and linters are just as good as or better than first grade long staple cotton.

A search of refrigeration literature showed that the U. S. Bureau of Standards had issued a bulletin (No. 243), in which cotton was given a higher insulation value than any other of the many fibrous materials tested. This fact is further substantiated by P. E. Thomas in his book on insulation, published by Nickerson and Collins Company, Chicago. Thomas, recording the report of a committee on the subject, says that of all insulating materials tested cotton showed the lowest heat conductivity. A search of U. S. Patent Office records failed to disclose any practical use of this knowledge in the refrigeration industry.

Cotton appears to offer two definite disadvantages in its use as an insulating material; first its inflammability, second its sponge-like quality of absorbing water and moisture. Tests showed that by inexpensive chemical treatment cotton could be rendered fire-resisting and moisture-proof. In addition cotton, with the density desired to afford maximum refrigeration efficiency, can be placed in cases made of corrugated cardboard, beaver board or tin.

In seeking to ascertain the maximum refrigeration efficiency from corrugated paper, when used in shipping cases and for other purposes, it was found that the board serves better when the corrugated spaces are filled with cotton at a certain density. This permits the construction of a light, cheap and efficiently insulated container for shipping frozen food, candy, solid CO<sub>2</sub>, and other commodities.

Prepared cotton and cotton linters lend themselves to the needs of insulation of many kinds; in ice plants, quick-freezing plants, refrigerator cars, refrigerated

trucks, refrigerators, house insulation, shipping containers and in protection for steam pipes. Not only was it found that units of this design are of value for insulation but also they were found to

be useful for sound proofing. In order to provide means for plastering over material of this kind, there is included in the patents a unit over which wall plaster may be applied; this is accomplished by having the outer part of the casing made of roughened corrugated board which acts as a key and holds the plaster firmly in place.

After much experimental work in designing hermetically sealed units, water proofed and fire resisting, for structural insulation and sound proofing as well as for domestic refrigeration and shipping cases, the fact has been demonstrated that cotton has great possibilities in the refrigeration field.

## Gastonia Reviews 1931 Record

Achievements for the year 1931 were reviewed by the Gastonia (N. C.) Chamber of Commerce at its annual meeting in January, the reopening of the First National Bank and the conduct of an intensive Southwide "wear cotton" campaign being emphasized as features. The Gastonia organization was awarded first prize in a Community Service Idea contest sponsored by the chamber of commerce secretaries of the entire country.

Among other features mentioned were the organization of Textiles, Inc., a merger of 21 important plants with aggregate capital of \$17,500,000; construction of a dyeing and finishing plant by the Groves Thread Co.; construction of Threads, Inc.; establishment of a Gastonia branch of the Hempton Mercerizing Co.; expansion of the Ranlo Manufacturing Co. plant.

More than \$122,000 was spent in construction and improvement of homes in 1931. An increase of approximately \$12,000 a week in local textile payrolls was reported in recent weeks.

The officers elected were: President, Judge Arthur C. Jones; vice-presidents, W. H. Wray and T. L. Wilson; treasurer, A. H. Sims; executive secretary, W. G. Gaston; assistant, Mrs. Lacy E. Adams; directors, C. D. Gray, A. J. Melvin, B. E. Atkins, W. Y. Gardner, E. J. Rankin, Steve Morris, Ralph Dickson and John L. Beal.

## New Orleans Cordage Plant

New Orleans, La.—The Cord-Tex Company, Inc., which has operated in this city as a selling organization for 11 years and manufactured mops for the past several years, will establish a plant here within the next few weeks for the production of manila and sisal rope, baling twine, lath yarns and a general line

of hard fibre cordage, according to A. B. Paterson, chairman of the Industrial Bureau of the New Orleans Association of Commerce. The company has leased the fifth and part of the fourth floor of a factory building at 1101 South Peters street for the equipment of the plant, and expects to distribute its product through 11 Southern states in addition to supplying it for export. Louis F. Klipstein is president of the company and John U. Barr, secretary and treasurer.

## Foreign Trade Council Convention

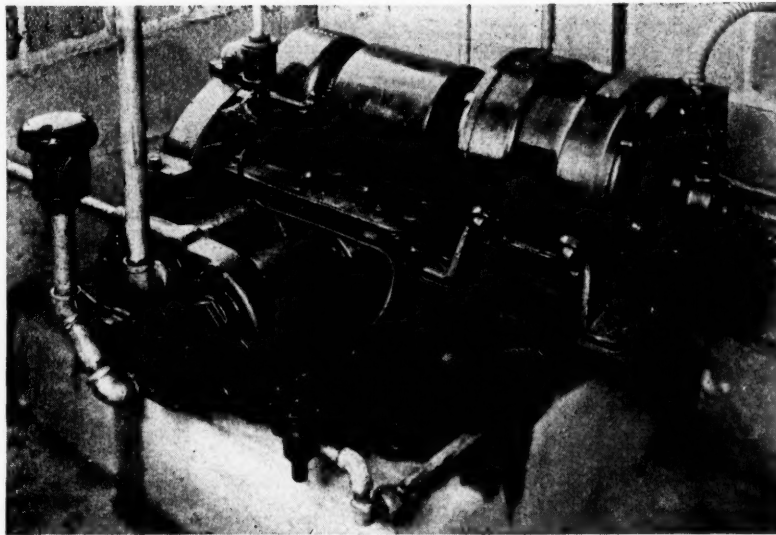
With the idea of "going half way to meet a customer," the National Foreign Trade Council announces that its foreign trade convention will be held at Honolulu, May 4-6. Honolulu is described by Secretary O. K. Davis of the Council as half-way for Japan, Australia, New Zealand, China and the Philippines—the Antipodes and the Orient. A comprehensive program, with prominent speakers, has been prepared, and large attendance is expected. James A. Farrell, retiring president of the United States Steel Corporation, is chairman of the National Foreign Trade Council.

## Frisco Lines Improve Service

To afford improved passenger service, Frisco Lines have revised schedules, effective February 14, featuring a faster northbound run by its Kansas City-Florida Special and a change in the time of its Meteor from St. Louis to Oklahoma City. Other changes, including several replacements and additions to service, have been arranged to provide connections with those trains and to bring increased convenience to the traveling public.

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This compressor has a number of distinctive features. It is a compact unit, driven through efficient herringbone gearing—no troublesome belts; flat disc valves are used to assure quiet operation; the compressor is automatically controlled, starting and stopping in accordance with air requirements; the lubricating system is positive and automatic, with but a single place to oil; high grade construction throughout guarantees dependable and lasting service.

*Our line of air compressors embraces many types and sizes, motor-driven and steam driven, ranging in sizes from 2½ to 300 cu. ft. displacement. They are suitable for a wide range of uses in shop, factory or steel plant.*

WESTINGHOUSE TRACTION BRAKE CO.  
Industrial Division                      Pittsburgh, Pa.

WESTINGHOUSE AIR COMPRESSORS  
"Quality Machines - for - Quality Service"



## Concentrated Fertilizer

Developed by Southern Chemists—Promises Savings to Southern Agriculture

A new industry for the South is foreshadowed in a recent announcement by Theodore Swann, president of the Swann Chemical Company of Birmingham, Ala. Chemists of the company have succeeded in developing an improved fertilizer which is expected to make possible marked savings to agriculture, especially in the South where 70 per cent of all the fertilizer used in the United States is consumed.

The feature of the new fertilizer, according to Mr. Swann, is its physical form. Instead of consisting of a mechanical mixture of plant food salts and a large percentage of inert materials, as is the case with the commercial fertilizer in general use, it is made up of granules, which are hard, firm, dustless, non-caking, and uniform in composition.

The granules are free-flowing even in damp, humid climates, and each granule contains exactly the right proportions of plant food. They can be handled as easily as grain and can be uniformly applied to the soil with the simplest type of mechanical distributors in quantities as low as five pounds to the acre. In consequence, it becomes practicable for farmers to use granular fertilizers con-

taining from 64 per cent of plant food, or four times as much as ordinary commercial fertilizer. In other words, 100 pounds of the new fertilizer has the same fertilizing value as 400 pounds of the old, and since the American farmer has been paying over \$30,000,000 annually for transporting and handling his fertilizer, the use of the new type will effect a substantial reduction in this bill.

An experimental plant to manufacture this fertilizer has been erected at the works of the Swann Chemical Company at Anniston, Ala. All the fertilizer produced so far has been sent to experiment stations, agricultural colleges and agencies for test purposes. Several hundred reports from these investigators have been received, and indicate that the granular, concentrated type is favored because it is convenient to handle, permits the maximum effective fertilization with the use of minimum amounts of fertilizer, and saves transportation costs.

The tests are being continued this year, and plans for manufacturing and distributing the new product will be held in abeyance until further information is secured.

### Farm Mortgage Loans Decrease

Further reductions in farm mortgage loans by principal lending agencies are reported by the Bureau of Agricultural Economics, in its monthly summary of farm mortgage indebtedness.

Mortgage loans by Federal land banks, outstanding on December 31, totaled \$1,163,000,000 as compared with \$1,167,000,000 on November 30, and \$1,187,000,000 on December 31 a year ago.

Loans by joint-stock land banks, outstanding December 31, were \$530,000,000 compared with \$535,000,000 on November 30, and \$553,000,000 on December 31, 1930.

Forty life insurance companies have reported to the bureau aggregate loans of \$1,523,000,000 outstanding on November 30, compared with \$1,527,000,000 on October 31, and \$1,561,000,000 on November 30, 1930.

Federal intermediate credit bank loans to cooperative associations are reported at \$45,255,000 as of December 31, compared with \$49,141,000 on November 30,

and \$64,377,000 on December 31, 1930. Loans by these banks to financing agencies, outstanding on December 31, were \$74,613,000 against \$74,467,000 on November 30, and \$65,633,000 on December 31 a year ago.

### South American Pipe Order

Attalla, Ala.—The Walworth Alabama Company has received an order from South America for 500 tons of pipe manufactured under a process perfected at the company's plant here, which will require about three months to fill, according to plant officials. The pipe, a combination of chrome, nickel and iron, is said to be particularly suitable for use in South American industry.

Low bids at \$274,000 each have been submitted to the Constructing Quartermaster, Bolling Field, Washington, D. C., by the Nicola Building Co., Pittsburgh, Pa., and the DeSibour Construction Co., Washington, for constructing Air Corps barracks at Bolling Field.

### \$1,150,000 Knoxville Postoffice

Knoxville, Tenn.—Bids will probably be invited within a few weeks by the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, for the construction of a new post office building here to cost \$1,150,000. The structure will be 251 by 147 feet, 64 feet high, or the equivalent of 3 stories plus the basement, to have an exterior of pink Tennessee marble, with large columns on the Main Avenue side. Three entrances have been provided, on Walnut street and two on Main avenue. Doorways and base course will be of rainbow granite. The first floor will be devoted entirely to the post office; the second to the Federal court, with a court room 40 by 60 feet trimmed in mahogany, and the third floor to offices of the Great Smoky Mountains National Park superintendent. The basement will accommodate a steam heating plant of the smokeless boiler type, work rooms and engineering rooms. Two electric elevators will be installed. Baumann & Baumann, Knoxville, are the architects.

### New Division of Birmingham Chamber of Commerce

H. C. Ryding, president Birmingham Industrial Board, at the annual meeting announced that merger has been effected between the board and the Birmingham Chamber of Commerce. The Board is to be continued as a division of the Chamber, without change of directors. Since organization of the Industrial Board three years ago more than 30 local industries have made major expansions, representing a capital investment of more than \$12,000,000.

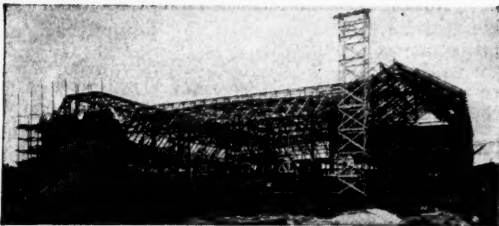
### \$1,000,000 Assembly Plant

Alexandria, Va.—Bids will be opened February 20 by the Ford Motor Company, Detroit, Mich., for the construction of an assembly plant here to augment the company's service facilities through this territory. The building will be 220 by 440 feet, of concrete and brick, estimated to cost \$1,000,000 with equipment. Albert Kahn, Detroit, is the architect-engineer.

### \$637,000 Veterans Home Contract

St. Petersburg, Fla.—General contract to erect the Veterans Administration Home here has been awarded by the Veterans Administration, Washington, to James I. Barnes, Logansport, Ind., at \$637,925. The work will include excavating and concrete piling.

**STRUCTURAL STEEL**



Photograph shows construction work on new gymnasium for Rutgers University at New Brunswick, New Jersey, using Ingalls structural steel. York & Sawyer, New York City, architects.

Inquiries solicited for all kinds of structural steel, standard buildings, bridges and steel shapes.

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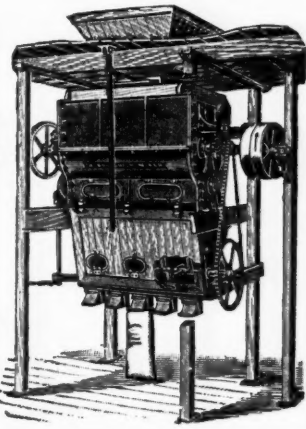
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## GALVESTON EXPORTS INCREASE

January Cotton Stocks Exceed 1,000,000

### Bales

Galveston, Tex.—Cotton exports from Galveston during January amounted to 298,096 bales, more than doubling exports for January, 1931, while the first week in February proved to be the heaviest since the beginning of the season, August 1, with exports of 174,179 bales. Grain exports in January were 721,000 bushels, as compared with 20,000 bushels in January, 1931; sulphur exports, 19,544 tons, as compared with 10,784 tons, and rice, 2855 tons, about four times greater than for January, 1931. Flour exports declined from 5750 tons in January, 1931, to 3759 tons in January, 1932.

For the first time in the port's history cotton stocks at Galveston exceeded 1,000,000 bales during the early part of January, 1932, with receipts averaging more than 20,000 bales daily during the first 15 days of the month. Total receipts for the season at the close of January stood at 1,780,000 bales, exceeding receipts for the same period in the previous season by 490,000 bales. With facilities to accommodate 1,650,000 bales at one time, Galveston is said to be the only American port showing an increase in cotton receipts this season.

### Banish Fear

Writing in its January Staple Cotton Review, the Staple Cotton Cooperative Association of Greenwood, Miss., reminds its members that fear is at the bottom of every panic and is the vicious link in the chain of circumstances which retard recovery from every period of depression. It says:

"If every man and woman in America

who during the past two years, through the prompting of fear, has withdrawn a dollar from circulation for the purpose of hoarding, whether in bank vaults, strong boxes or at home, would re-deposit that money in banks on any given date, the present period of distress would enter upon its last stage at that very hour. The whole picture would change overnight. Of course no such action will take place. Recovery does not come that way. People are not that sane. Fear prevents any such common sense procedure. The thing will have to be worked out 'through the slow process of evolution and the infinite mercy of God.' And it will take time. But for all that, ultimate recovery is none the less sure."

## Completing Intracoastal Canal Section

Lake Charles, La.—The Calcasieu-Mermentau section of the Intracoastal canal will be completed within the next few weeks, according to Major R. F. Fowler, United States District Engineer, New Orleans, and the Mermentau-Vermilion section will be completed before April. The entire canal is now under contract, and it is expected a continuous 9-foot channel from Port Arthur, Texas, to the Mississippi River, by way of Plaquemine, will be available by February 1, 1933. D. L. McPherson, Abbeville, La., vice-president of the Intracoastal Canal Association, states that the Lake Arthur Dredging Co. will connect with the Huth Construction Co. in the western part of Vermilion Parish about February 15, and that work will practically be completed around March 1 throughout the route from the Vermilion to the Mermentau. A cut from Weeks Island to the Vermilion River is expected to be opened about March 1, giving a continuous inland waterway from Weeks Island to the Calcasieu and westward to the Sabine River. Work is well under way on the section between Weeks Island and the Atchafalaya River, and this part of the canal is expected to be opened in about a year.

## Building Modernization

The direct advantages of an intensified modernization campaign are beyond comprehension. A few figures bearing on this tremendous need have been gathered by the National Association of Building Trades Employers, from several sub-branches of the building industry and tell this story:

"More than \$1,250,000,000 is necessary to wire more than 8,000,000 homes without electricity. This pertains to inside wiring and does not include additional central and domestic power plants, distributing lines, or electrical fixtures and appliances.

"At least 9,000,000 homes are without bathrooms. For equipment alone, this means an outlay of \$2,000,000,000, exclusive of labor costs. This is aside from additional water mains, sewers and septic tanks. Add to this total, millions of other dwellings with old-fashioned bathrooms.

"More than \$7,000,000,000 is needed to install central heating in 15,000,000 homes without furnaces. Add several more million with inadequate heating plants and furnaces.

"This information reveals only what could and should be done in the home. Apartments, industrial and office buildings, etc., are not included. Much blame for the depression is placed at the door of unbalanced production, but not much thought is directed toward or action speeded up on our deficiency wants. If modernization work in all its aspects were promptly pushed, there would be no necessity to worry about new construction for some time. This neglected phase of building work has mounted yearly, awaiting only the leadership of constructive forces."

Annapolis, Md.—Maryland bonds in the amount of \$2,122,000, to bear an interest rate of 4¼ per cent, have been sold by John M. Dennis, State Treasurer, to Alexander Brown & Sons, the Baltimore-Gillet Company, both of Baltimore, and the Chase-Harris-Forbes Corporation, New York, at 96.27. The obligations consist of \$1,997,000 general construction bonds and \$125,000 Ocean City inlet bonds.

## Iron and Steel Products

BETHLEHEM STEEL COMPANY  
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more, Washington, Atlanta.



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Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco,  
Los Angeles, Portland, Seattle, Honolulu.

# BETHLEHEM

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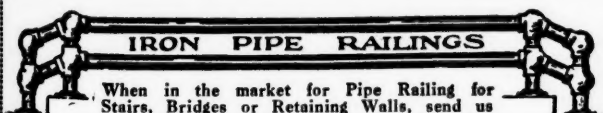
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## FINANCIAL NEWS

### Bond Issues Proposed

Ala., Tuscaloosa—City votes Mar. 14 on \$75,000 waterworks bonds.

Ark., Bentonville—Benton County, W. C. Deason, County Treas., denies report offering \$25,000 bonds. 2-11

Fla., Palm Beach—City, John Shepard, Jr., Mayor, votes Mar. 7 on \$11,203 bonds. 2-11

Ky., Lawrenceburg—City opens bids Mar. 4 for \$40,000, 6%, \$1000 denom. bonds.

Ky., Louisville—Sewer Comsn., reported, may offer \$1,000,000 to \$2,000,000 sewer bonds.

La., Morgan City—City, Mayor and City Council, deferred sale of \$175,000 light, power and waterworks bonds. 1-14

Miss., Greenville—Washington County votes Feb. 23 on \$451,500 bonds to refund drainage district obligations.

Miss., Jackson—State Bond Comsn., Sen-nett Conner, Governor, offer \$2,500,000 short term notes Feb. 24.

Miss., Starkville—City, E. R. Lloyd, Mayor, cancelled sale of \$101,000 light plant bonds. 1-14

Mo., Joplin—City, Charles A. Patterson, Mayor, votes Mar. 4 on \$100,000 public improvement bonds. 2-11

Mo., Clayton, St. Louis—St. Louis County, Office County Clk., reported, opens bids Feb. 24 for \$1,500,000, not to exceed 5% road bonds; will not be sold for less than 95, and bids will be received for blocks of \$500,000.

Mo., University City, St. Louis—City, E. D. Ruth, Jr., Mayor, defeated \$500,000 street lighting plant bonds. 1-7

Mo., Washington—City votes in spring on \$30,000 sanitary sewer and disposal plant bonds.

Okla., Durant—City received no bids for \$50,000, 5% bonds. 12-24

Okla., Elk City—City, Office City Clerk, opens bids Feb. 23 for \$25,000 sewage disposal plant bonds. 2-11

Okla., Muskogee—Muskogee County Com-

mrs. adopted resolution authorizing issuance of \$250,000 installment of \$1,500,000 highway bonds voted in 1928.

Tenn., Camden—Benton County Court did not sell \$34,000 refunding bonds. 1-21

Tenn., Jackson—City, R. L. Balch, City Recorder, advises decided not to offer \$65,000 refunding bonds at present. 2-4

Tex., Dalhart—Dallam County, reported, voted \$360,000 highway bonds. 2-4

Tex., Hereford—Deaf Smith County, reported, may call election on road bonds.

Tex., Houston—City, W. E. Monteith, Mayor, plans marketing \$4,000,000 bonds in 1932.

Tex., Muenster—City, J. M. Weinzapfel, City Sec., plans offering \$33,000 bonds.

Tex., Perryton—Ochiltree County voted \$172,389 refunding bonds. 1-7

Tex., Vega—Oldham County votes Mar. 5 on \$135,000 highway bonds.

Va., Richmond—Henrico County, Julien Gunn, Circuit Court Judge, votes again Mar. 16 on \$50,000 sewage disposal plant bonds of Sandston Sanitary Dist. No. 2; former election held void. 2-4

### Bond Issues Sold

Ky., Mayfield—City, John W. Bates, Clk., sold \$50,000 funding bonds to Osher & Gardner, Mayfield.

Md., Annapolis—State, John M. Dennis, Treas., sold \$1,997,000, 4½% general construction bonds and \$125,000 4½% Ocean City inlet bonds to Alexander Brown & Sons and Baltimore-Gillet Co., both Baltimore, and Chase-Harris-Forbes Corp., New York.

### New Financial Corporations

Ark., Marked Tree—J. G. Waskon, Marked Tree; W. B. Chapman, Porter Bldg., Memphis, Tenn., and associates plan new bank.

Ark., Rison—Jo. Nichols, Pres., closed Simmons National Bank, Pine Bluff, and associates plan opening new bank.

Ark., Searcy—Security Bank, chartered; S. W. Sanford, Pres.

N. C., High Point—Committee, composed of Charles F. Tomlinson, John S. Pickett and Willis Slane, considering opening new bank.

Tenn., Knoxville—Joseph P. Gaut, Secle Dr., and associates plan opening new bank.

Tex., Coleman—First Coleman National Bank, capital \$100,000, chartered; J. P. McCord, Pres.; S. H. Gray, Cashier.

W. Va., Shinnston—Benjamin Anderson, Jr., named president of new bank to be opened in near future; Wayne C. Hawker, Sec.

Bank of Commerce, E. Daigle, Pres., Crowley, La., acquired Bank of Acadia, J. Frankel, Pres., Crowley.

Bank of Chincoteague, D. J. Whealton, Pres., Chincoteague Island, Va., acquired Marine Bank, J. T. Rowley, Pres., Chincoteague Island.

### Hercules Powder Company

Net earnings of Hercules Powder Company, Wilmington, Del., for 1931 were \$1,430,538, representing \$1.04 per share on the company's outstanding no-par common stock after payment of \$799,687 preferred dividends, according to the annual report. Net earnings for the previous year amounted to \$2,376,479. The company's strong financial position is indicated by its current assets which stand at \$15,381,281, showing a 23.3 ratio to current liabilities and including cash and marketable securities of \$6,836,773. The company's balance sheet shows total assets of \$42,266,283. Several projects were completed during 1931 to effect economies in operation, to provide improved quality and service and anticipate new products.



### A Change of Atmosphere for mental and physical recuperation

OF all the years recently, this is a time when business men need relaxation. Nearness to the great centers of population is one of the features that has made the sand hill country of North Carolina so popular. With dry bracing air; days abounding in sunlight, nature's great restorer and an azure sky that invites life in the open, this section possesses health-giving advantages.

Highland Pines Inn is noted for its homelike atmosphere and the comforts it provides. Two 18-hole golf courses, hunting and horseback riding are available to our guests.

*Airplane transportation and an airport are within fifteen minutes of the hotel, with one of the best landing fields in the East.*

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## A FLORIDA FARM

will provide a good living for you and the family.

Of course the farmer must apply himself to the business of farming — plan intelligently — diversify his crops—raise chickens and hogs — keep a cow or two — grow fruits and other things that go with the makeup of a general farm.

It's a healthful outdoor life for all the family.

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We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

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**THE** growth and development of the South and Southwest demands extensive financing and banking facilities. If you are interested in enlarging your contacts in this section, may we discuss our advertising service with you?

**MANUFACTURERS RECORD**



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WHEN 169 RAILROADS FAILED IN 1893, JOHN H. PATTERSON SAID:

"The year has been unparalleled in the history of the United States. Great questions were to be solved, every industry was stagnant. Some closed down, some lost courage, while a few pushed ahead and worked harder than ever with confidence in the future. We did not let the hard times interfere with our work. When times got duller, we advertised the more and worked the harder."



WHEN PIG IRON DROPPED 50% IN 1907, ANDREW CARNEGIE DECLARED:

"This panic will soon run its course and pass away leaving no impediment to the return, in due season, of another period of wholesome, because needed, expansion of our resources. . . .

"We have had the greatest expansion of modern times. Reaction had to come—will prove healthful. Nothing can stay the rapid progress of the Republic. She is all right."



WHEN DEEP, DARK GLOOM RULED IN 1921 THOMAS FORTUNE RYAN SAID:

"Our merchants have been buying only what they can sell quickly for cash. The consumer has had to listen to so much pessimistic talk that he buys only what is absolutely necessary. People everywhere have been scared. They are getting over that."

"Our people are the greatest consumers of food and manufactured articles in the world in normal times—and normal times are coming back. . . ."

## AMERICA CAME THROUGH!

In 1893 stark ruin stalked through the land. 467 banks failed in a few months. Mills, furnaces and factories shut down everywhere. Bankruptcy was on every hand. America had twice as many unemployed per thousand population as she has today. But she put them all back to work.

In 1907 panic broke loose. The production of pig iron dropped 50% in less than a year. All but the strongest men lost heart—"We are ruined", they declared, "recovery cannot come in our time." Yet in two years prosperity had returned.

In 1921, when many honest and thoughtful people were predicting worse conditions, the country was already beginning to climb to the greatest era of prosperity it had ever experienced.

History tells how America has fought and won 19 major depressions. Good times always follow hard times, as surely as day follows night. Prosperity always comes back. It is coming back *this* time, too.

Above all things, let us have faith.

America Has Beaten 19 Major Depressions  
She will Beat this one

THE NATIONAL PUBLISHERS ASSOCIATION

*"As the most nearly self-contained nation, we have within our own boundaries the elemental factors for recovery."*

(From the Recommendations of the Committee on Unemployment Plans and Suggestions of the President's Organization on Unemployment Relief.)



# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close March 24, 1932.

**TREASURY DEPARTMENT**, Bureau of Engraving and Printing, Washington, D. C., February 10, 1932.—Sealed proposals are invited to furnish dextrine, oils, textiles, and dry colors, during the fiscal year beginning July 1, 1932. The right is reserved to reject any or all bids or parts of bids. Samples must be received at the Bureau of Engraving and Printing not later than 2 p. m., March 24, 1932. Blank forms with specifications for proposals, giving dates on which the bids for the several schedules will be opened, and further information will be furnished on application to A. W. HALL, Director.

Bids close March 3, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., February 11, 1932.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 3, 1932, for furnishing all labor and materials and performing all work for the remodeling and enlarging of the U. S. post office at Greencastle, Ind. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798), and the executive order of January 19, 1932. Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close March 1, 1932.

**SEALED BIDS**, in triplicate, subject to the conditions contained herein, will be received by the Veterans Administration, Room 764, Arlington Building, Washington, D. C., until 2.30 P. M., March 1, 1932, and then publicly opened for furnishing all labor and materials and performing all work required for constructing and finishing complete at VETERANS ADMINISTRATION HOSPITAL, ASPINWALL, SHARPSBURG, PENNSYLVANIA, ADDITION TO INFIRMARY BUILDING AND NEW QUARTERS. This work will include excavating, road work, grading, reinforced concrete, hollow tile, brick work, cut stone, marble work, terrazzo, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, iron work, steel sash, steel stairs with slate treads, steel shelving, cabinets and partitions, slate, metal and built-up roofing, roof ventilators, metal lathing, plastering, sound deadening, carpentry, metal weatherstrips, insect screens, painting, glazing, hardware, plumbing, heating and ventilating, electrical work, electric elevators, and outside sewer, water, gas, steam and electric service connections and such other items as shown or specified. **SEPARATE BIDS** will be received for (a) General Construction (including plumbing, heating and electrical work) and (b) Electric Elevators; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making awards, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Administrator, drawings and specifications may be obtained upon application to the Construction Service, Room 764, Arlington Building, Washington, D. C. While no deposit will be necessary, return of the drawings and specifications within ten days after date of opening bids will be required. In case no bid is to be submitted, the return of plans and specifications, as soon as this fact has been determined, and before the date for opening bids, is requested. Compliance with the requirement and with the request indicated will be considered in connection with future applications for drawings and specifications. H. W. BREINING Assistant Administrator. February 1, 1932.

Bids close March 21, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., February 15, 1932.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 21, 1932, for furnishing all labor and materials and performing all work for the construction (except elevators and dumb-waiters, etc.) of the U. S. post office, court house, etc., at Newark, N. J. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Not exceeding six sets of drawings and specifications will be furnished to the prospective bidders upon application therefor, when such application is accompanied by a deposit of \$50.00 for each set to insure its return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be acceptable. Each bid must be accompanied by a statement of facts in detail of the business and technical organization of the bidder available for the contemplated work, including financial resources and building experience, and no consideration will be given to a bid which is not accompanied by said statement. The right is reserved to reject any bid where an investigation or the evidence submitted by such bidder does not satisfy the contracting officer that such bidder is qualified to carry out properly the terms of the contract. In awarding a contract, consideration will not be given to bidders who have not constructed within the last six years at least one building comparable with the project for which the bid is submitted. The successful bidder will be required to furnish a performance bond of at least 50 per cent of the contract price. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 23, 1932.

## Bridge

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

### NOTICE TO CONTRACTORS

Baltimore, Md.

**SEALED PROPOSALS** for the construction of bridge as follows:

Charles County, Contract No. Ch-92-811—Timber Bridge (518'6", more or less, between backwalls) on timber pile bents including all accompanying bulkheads, etc., excluding the lift span superstructure over Neal's Sound, connecting Cobb Island with the mainland.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 23rd day of February, 1932, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, for each separate project, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 9th day of February, 1932.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.

Bids close March 2, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., February 1, 1932.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 2, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office at New Kensington, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding 3 sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close March 1, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., February 2, 1932.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 1, 1932, for furnishing all labor and materials and performing all work for the construction (except the elevator) of the U. S. post office at Tamaqua, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications not exceeding three sets may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 23, 1932.

## Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION

### NOTICE TO CONTRACTORS

Baltimore, Md.

**SEALED PROPOSALS** for building two sections of State Highway as follows:

Cecil County, Contract No. Ce-128-24—One section of State Highway from Calvert to the Pennsylvania State Line for a distance of 1.46 miles. (Concrete)

St. Mary's County, Contract No. SM-88-82—One section of State Highway along the Leonardtown-Glebe's School Road from the end of contract No. SM-68 to Glebe's School for a distance of 1.18 miles. (Gravel)

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 23rd day of February, 1932, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, for each separate project, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 9th day of February, 1932.

G. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.



Bids close March 16, 1932.

**TREASURY DEPARTMENT**, Bureau of Engraving and Printing, Washington, D. C., February 4, 1932.—Sealed proposals are invited to furnish paper boxes, paper box blanks, and paper, during the fiscal year beginning July 1, 1932. Samples must be received at the Bureau of Engraving and Printing not later than 2 p. m., Wednesday, March 16, 1932. Blank forms with specifications for proposals, giving dates on which the bids for the several schedules will be opened, and further information will be furnished on application to A. W. HALL, Director.

Bids close March 7, 1932.

**TREASURY DEPARTMENT**, office of the supervising architect, Washington, D. C., February 13, 1932.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., March 7, 1932, for furnishing all labor and materials and performing all work for excavation and wood piles, construction buildings D and E, U. S. marine hospital, Norfolk, Va. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any

satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close March 7, 1932.

**TREASURY DEPARTMENT**, Office of the Supervising Architect, Washington, D. C., February 6, 1932.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., March 7, 1932, for furnishing materials and performing the work for the Boiler Installation, including the furnishing, delivery and complete erection of boilers, water walls, soot blowers, settings, casings, stokers, forced and induced draft fans in the central heating plant for public buildings, at Washington, D. C. Proposals will be considered only from individuals, firms or corporations who have had actual experience in the furnishing and installation of boilers, stokers, fans, etc., similar to and of approximately the magnitude of the equipment covered by these specifications, and who are possessed of sufficient financial ability and of satisfactory business standing and technical ability, shop equipment and technical organization and who have demonstrated their ability to furnish and install boilers, stokers, fans, etc., of the grade covered by these specifications. All prospective bidders are hereby notified that, prior to the award of the contract, the right is reserved by the supervising

architect to require any or all bidders to submit a "statement of facts as to qualifications to furnish and install boilers, stokers, fans, etc., in strict accordance with the specifications" in detail of such data as may be required, including the business and technical organization of the bidder available for the contemplated work, financial resources, building experience, locations of boiler installations, etc., of approximately the magnitude of the equipment covered by these specifications, including complete data covering the operating characteristics for the boilers, number, type, size, etc., of the various items proposed to be used together with drawings and full descriptive matter pertaining to the equipment. The United States expressly reserves the right to reject any bid in which the facts as to business and technical organization, financial resources, or building experience compared with the project bid upon justify such rejection or in which the operating characteristics for the boilers, number, type, size, etc., of the various materials proposed are not strictly in accordance with specification requirements. The successful bidder will be required to furnish a performance bond of 50% of the contract price. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from this office. JAS. A. WETMORE, Acting Supervising Architect.

## CLASSIFIED OPPORTUNITIES

### MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

#### TIMBER OPERATION

**FOR SALE**—Complete Saw Mill with Planing Mill, Dry Kiln, and all necessary equipment, well located in South Carolina with an abundant timber supply behind it. Capacity 30,000 ft. per day. Can be bought at a reasonable price. Address: P. O. Box 1426, Norfolk, Va.

#### BUSINESS OPPORTUNITIES

**FOR SALE OR TRADE**—Modern 8 room and 5 room residences, Miss. location, a bargain for cash or will trade for 60 H. P. tractor and grader or suburban acreage near good southern city. A. J. HANSON, Alexandria, La.

**EXPERIENCED COLONIZER AND OWNER** 3000 acres rich, black land in upper-glades section South Florida wants associate with several thousand dollars to finance settlement campaign. This section now beehive of activity; 3000 solid cars produce already shipped, contracts being let \$9,000,000. Federal project Lake Okechobee, big sugar mill running night and day, new homes springing up, families becoming self-supporting here quickly on small investment. Fine schools, good roads; land clear. Believe possible make \$100,000 next 2 years. Address No. 9171, care of Manufacturers Record, Baltimore, Md.

#### INDUSTRIAL PLANTS

##### FOUNDRY AND MACHINE SHOP PLANT FOR SALE OR LEASE.

Located in Ocala, Florida. Atlantic Coast Line Railway track through the plant and a city block from the Seaboard Air Line depot. Plant completely equipped for the manufacture of phosphate and lime rock mining, crushing, washing, drying and hoisting machinery; heavy duty sand and gravel pumps; cone distributing and revolving screens; dump cars; municipal castings; and general machine shop and boiler works; electric power driven machines throughout. Ample land with warehouses, mill supply room, machine shop, blacksmith and pattern shop, foundry buildings and offices. Low price and liberal terms to responsible parties. Further information on application to George MacKay, President, Ocala, Florida.

### Rates, Terms and Conditions

**RATES:** 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

**Rates for Special Contract:**

100 lines 28c a line  
300 lines 26c a line  
500 lines or more 25c a line

**TERMS:** For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

**CONDITIONS:** No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

#### INDUSTRIAL PLANTS

**LUMBER MFG. PLANT** including Band Mill, Kilns, Planing Mill for sale. Ideal location; delightful all year climate. For particulars, write No. 9163, care of Manufacturers Record, Baltimore, Md.

#### PATENT ATTORNEYS

**PATENTS**—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

**FREE "PATENT PARTICULARS"** Sterling Buck, over 25 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

**PAUL B. EATON**, Patent Attorney 1408-R Johnston Bldg., Charlotte, N. C. 941 Munsey Building, Washington, D. C. 417 Wachovia Bldg., Winston-Salem, N. C.

**SEYMOUR & BRIGHT**, Registered Patent Attorneys. Established 1876. **PATENTS, TRADEMARKS, COPYRIGHTS.** Prompt and thorough service. Suite 892, National Press Building, Washington, D. C.

### SITUATIONS WANTED

**MASTER** electrician with class A license, 15 years experience in construction and maintenance. Now prepared to accept position in manufacturing plant as chief electrician. No. 9170, Manufacturers Record.

**MIDDLE AGED MAN** with years of experience in manufacture, sales and erection of metal products for buildings, with confidence of architects and building trades, desires connection with some company on commission basis with drawing account to cover expenses. Address No. 9167, care of Manufacturers Record, Baltimore, Md.

### REPRESENTATIVES WANTED

**MAN WANTED** to represent large manufacturer in exclusive local territory on sale of water treating chemicals. Engineering or chemical education or experience in this field necessary. Substantial earnings, permanent connection. **UNION PRODUCTS COMPANY**, Cleveland, Ohio.

### MEN WANTED

**IF YOU ARE OPEN** to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-two years. Send only name and address for details.

R. W. BIXBY, INC.,  
103 Downtown Bldg. Buffalo, New York

### FOUNDRIES

**STEEL CASTINGS**  
Rough or Machined.  
W. W. PETTIS COMPANY,  
Cincinnati, Ohio.

### MACHINERY AND SUPPLIES

**MOTORS AT ONE-THIRD USUAL PRICES!** 95 brand new 3-H.P. Century, 220 volt, 60 cy., 3-ph., 3500 R.P.M. A.C. Motors, \$22.50 each. Also 20 5-H.P., same type, \$29.50 each. No pulleys. You will never again equal these prices and we advise wiring us if interested. Terms: Cash F.O.B. Chicago or shipped sight draft attached. Bargains in many other sizes. Electrical Surplus Co., 1885 Milwaukee Ave., Chicago.

# RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES

## Diesel Engine and Combination Drag Line, Shovel and Crane

### FOR SALE

- 1—100 H. P. Fairbanks Morse full Diesel C. O. Engine, nearly new, excellent condition.
- 1—1¼ yd. combination Link Belt crawler dragline and shovel—or can be used as crane. Fine condition.

Both at low figure.

H. C. LAWRENCE  
ELIZABETH CITY, N. C.

## 8-in. Galvanized Corrugated Pipe

6,000 ft. 8-in. New Galvanized Corrugated Pipe in lengths 16 to 20 ft., suitable for exhaust drains, water systems, sewers, etc. Have the necessary connecting sleeves. Priced considerably under the market.

300,000 ft. Reconditioned Pipe, new threads and couplings, all sizes from ¼ in. to 24 in., guaranteed suitable for all practical purposes.

Marine Metal & Supply Co.  
167 South Street New York City

SATISFACTION

ALBERT PIPE SUPPLY CO., INC.

NEW-RECLAIMED-USED

**PIPE**

ALL SIZES CUT TO SKETCH AND STOCKED

BERRY & NORTH 13th STS. BROOKLYN, N.Y.

GUARANTEED

SERVICE PRICES

**PIPE** NEW

SECOND HAND

Overhauled and Tested

New Threads and Couplings

Established 1904

**Albert & Davidson**

Pipe Corp.

Second Ave., 50th-51st St., Brooklyn, N. Y.

Telephone Sunset 1900

## USED PIPE NEW

Overhauled New Threads and Couplings Large Stock for Immediate Shipment

Write or Phone Cinti West 2415

**WIDES PIPE & SUPPLY CO.**  
Findlay & John Sts.—Cincinnati, O.

## IRON AND STEEL PIPE

Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

**CENTRAL PIPE & SUPPLY CO.**  
Box 1089 Charleston, W. Va.

Second Hand and New **PIPE** Overhauled New Threads and Couplings

Also Cut to Sketch

**Greenpoint Iron & Pipe Co., Inc.**  
187-205 Maspeth Ave. Brooklyn, N. Y.

IF IT'S NEW

**PIPE** OR SECOND HAND

black or galvanized up to 12"—we have it. Cut and threaded to any length. SPECIAL: a carload of 3" or 4". Cheap at any time, rethreaded and coupled.

Your inquiry means—Another satisfied customer.

**HUDSON PIPE AND SUPPLY CO.**  
34th Street and C. R. R. of N. J. Bayonne, N. J.

# RAILROAD AND CONTRACTORS' EQUIPMENT

## FOR SALE

P & H MODEL 206, GAS, CRAWLER DRAGLINE 45 FT. BOOM, FULL ENCLOSED STEEL CAB, ¾ YD. BUCKET.

Byers, 10 tons capacity, full revolving crawler steam crane, 40 ft. boom. 12 yd. Western, heavy duty steel beam type 2-way dump cars, 19 ft. beds; NEW BODIES.

The above completely rebuilt and we can offer at an unusual bargain.

Have large assortment of modern locomotives 5 to 100 tons, all types, rebuilt and ready. Steam and gas shovels, etc.

**Southern Iron & Equipment Co.**  
ATLANTA GEORGIA

## 36" PORTABLE TRACK

25 lb. rails—7 steel ties per 15 ft. sections. Over ten miles, located Ocala, Fla. Also locomotives, cars, cranes and shovels.

Write us or have your local dealer do so.  
**EQUIPMENT CORPORATION OF AMERICA**  
1166 So. Washtenaw Ave., Chicago

## RAILS NEW & RELAYING ALL WEIGHTS

Let us know your needs. We may have material in stock near you.

WE BUY RAILS FIT TO RE-LAY

**ROBINSON & ORR**  
Columbia Bldg., 248 Fourth Ave., Pittsburgh, Pa.  
New Frogs and Switches at low prices.

## STEEL SHEET PILING

NEW and USED

Rented — Sold — Bought

Stocks at principal points.

**HYMAN-MICHAELS COMPANY**

St. Louis CHICAGO New York  
Houston San Francisco Seattle

## REBUILT EQUIPMENT

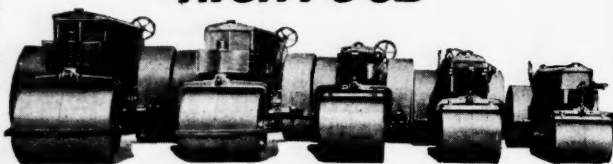
Motors A.C. and D.C. Transformers. Pumps. Air Compressors. Lathes, Wheel lathes, Wheel press, Slotter, Milling machine, Time recording clocks, Watchman's clocks, Pulleys and Hangers.

**Guyan Machine Shops**  
Logan, W. Va.



## BUFFALO-SPRINGFIELD

**THE RIGHT ROLLER FOR THE  
RIGHT JOB**



The Buffalo-Springfield Roller line covers an exceptionally wide range of models and sizes. Whether for the heavy compaction demanded in the construction and maintenance of municipal streets, or for light compression work in public parks, on tennis courts, etc., there is a Buffalo-Springfield model to do it to the best advantage.

Built in weights from 2½ to 17 tons. Three Wheel and Tandem Scarifier and other attachments optional.

**THE  
BUFFALO-SPRINGFIELD  
ROLLER CO.  
SPRINGFIELD, OHIO, U.S.A.**

## MARINE CONTRACTORS

**DREDGING DRAGLINES  
TOWING—BARGING**

500 Ton Oil Barges for Charter and Towing Contracts Solicited.

We have Four Hydraulic Dredges 16" to 8" also Four Diesel Tugs 230 H. P. to 60 H. P.

Correspondence Solicited on all Activities Involving Marine and Drainage Work Anywhere in Southern Waters.

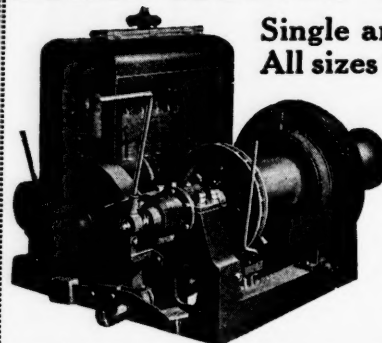
*Our Prices Will Interest You*

F. M. Hendry, Manager

**SHELL PRODUCERS CO., Tampa, Fla.**

## DAKE HOISTS-Gasoline & Electric

**Single and Double Drum  
All sizes from 2 to 27 h.p.**



Are convenient, efficient, dependable and enduring. Rigid, sturdy construction insures lasting alignment. Interchangeable parts. Alemite lubrication. Low maintenance cost.

*Send for catalog and prices*

**DAKE Engine Company**

Grand Haven  
Michigan

## WILLIAMS BUCKETS

**Dig Faster  
Dig Deeper**

Absolutely straight line reeving reduces upkeep cost

**THE WELLMAN ENGINEERING CO.**  
7003 Central Avenue, Cleveland, Ohio



## Owen Buckets

Greater Digging Power  
Faster Operation  
Longer Life  
Guaranteed Against  
Breakage



They get  
"A Mouthful at Every  
Bite" and More Bites  
Per Day

4015 BREAKWATER AVENUE, CLEVELAND, O.

## BUCYRUS ERIE

**Reliability!**

Bucyrus-Eries are cutting costs in every part of the world. All sizes, types and powers of excavators. Railway cranes and "Load-master."

**BUCYRUS  
MONIGHAN**

WALKING  
DRAGLINE  
EXCAVATORS

SHOVELS  
CRANES  
DRAGLINES  
DREDGES

**Bucyrus-Erie Co.**  
South Milwaukee, Wisconsin

**IF YOU WANT TO GET  
Southern Business  
Advertise in the  
MANUFACTURERS RECORD**

## LARGEST PLANT

Filling,  
Land Reclamation,  
Canals  
and Port Work

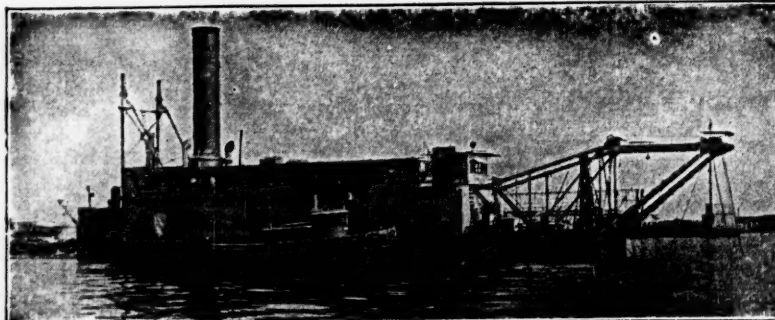
River and Harbor Improvements,  
Deep Waterways  
and Ship Channels.

Correspondence Invited  
from Southern Officials  
and Corporate and Private  
Interests Everywhere.

NEW YORK  
21 Park Row

## DREDGING

## LONGEST EXPERIENCE



We are especially equipped to execute all kinds of dredging, reclamation and port works in Southern waters.

CONTRACTORS  
TO THE  
FEDERAL GOVERNMENT

HOUSTON  
Scanlan Bldg.

**Atlantic, Gulf and Pacific Company**

*We produce in quantities to meet your requirements*

## SAND and WASHED GRAVEL

**Q**UICK shipments by rail from Baltimore and North East, Md. or in scow and barge lots. Truck or rail shipments from Baltimore, Md.

### The Arundel Corporation

MAIN OFFICE: ARUNDEL BUILDING  
BALTIMORE, MARYLAND

Branches: New York, Norfolk and Miami

## Asphaltic Concrete

Pre-Mix—Cold Lay

An ideal paving and patching material. Not expensive. Of long proven quality.

Handled without heating with ease and dispatch

### W. F. CULBERT & SONS

*Producers of crushed stone, ballast and chemical stone.*

Marion

Virginia

**Crushed Stone**  
**Mascot Chatts Roofing Gravel**  
**Asphaltic Roadway Gravel**  
**Asphalt Filler Dust**



AMERICAN LIMESTONE COMPANY  
KNOXVILLE TENNESSEE



for economy and permanence in Road Building and General Construction

**WOODSTOCK SLAG CORP.**

*Southern Railway Bldg., Birmingham, Ala.*

## SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete Roads and Buildings

Filter Gravel, all sizes—Building Bricks

**FRIEND & CO., INC.**

River St., Petersburg, Va.



Owner  
C. M.  
GREEN  
Clayton,  
N. M.

# LIMA TAKES THE JOB AS IT COMES

LIMA takes a job as it comes. It asks no favors. That is why many progressive contractors are standardizing on LIMAS.

No longer is it necessary to worry about costly shutdowns. LIMA'S oversized construction and tremendous digging power is your assurance of steady production and greater profits.

It will be to your advantage to inspect a LIMA before you buy your next shovel, dragline, crane or backdigger.

The Ohio Power Shovel Company  
Division of Lima Locomotive Works, Incorporated

ATLANTA      LIMA, OHIO      DALLAS  
303 Mortgage Guar-      1963 Union Ave.      1303 So. Lamar St.  
anty Building

# LIMA



# Classified Index for Buyers

## ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

## ACCOUNTANTS and AUDITORS

Ernst & Ernst, New York, N. Y.

## AIR COMPRESSORS (Stationary and Portable.)

Armstrong & Bro. Co., R. S., Atlanta, Ga.  
De Laval Steam Turbine Co., Trenton, N. J.  
General Electric Co., Schenectady, N. Y.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

## AIR HEATERS.

Babcock & Wilcox Co., New York.

## ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

## APPRAISERS.

Main, Inc., Chas. T., Boston, Mass.

## ARCHITECTS.

Chase, Wm. J. J., Atlanta.  
Main, Inc., Chas. T., Boston, Mass.  
Milburn, Melster & Co., Washington, D. C.  
Moyer Co., Tilghman, Allentown, Pa.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Strrine & Co., J. E., Greenville, S. C.

## ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

## ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

## —Filler.

American Limestone Co., Knoxville, Tenn.

## —Paving.

Barber Asphalt Co., Philadelphia, Pa.

## —Plants.

Simplicity System Co., Chattanooga, Tenn.

## RABBITT METAL.

Ryerson & Son, Inc., Jos. T., St. Louis and New York City.

## BACKFILLERS.

National Equipment Corp., (Parsons), Milwaukee, Wis.

## BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

## BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.  
Baltimore Trust Co., Baltimore, Md.  
Bank of New York & Trust Co., New York City.  
First and Merchants National Bank, Richmond, Va.

## BARGES (Steel.)

American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

## BAES (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.  
Gulf States Steel Co., Birmingham, Ala.  
Ingalls Iron Works Co., Birmingham, Ala.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Sweet's Steel Corp., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## BEAMS, CHANNELS, ANGLES.

Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
Phoenix Iron Co., Philadelphia, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## BITUMINOUS ROAD MATERIAL.

Koppers Products Co., Pittsburgh, Pa.

## BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

## BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

## BLOCKS (Chain.)

Wright Mfg. Co., Bridgeport, Conn.

## BOILER REPAIRS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

## BOILERS (New.)

Babcock & Wilcox Co., The, New York.  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Schofield's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.

## —(Oil.)

Babcock & Wilcox Co., New York.

## —(Used.)

Delta Equipment Co., Philadelphia, Pa.  
O'Brien Machinery Co., Philadelphia, Pa.

## BOILER SETTINGS.

Babcock & Wilcox Co., New York.  
Brooks-Fisher Co., Atlanta, Ga.

## —Tubes.

Babcock & Wilcox Co., New York.  
National Tube Co., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.

## —Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

## BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —Bolts (Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Law & Co., A. M., Spartanburg, S. C.  
Nuven & Co., John, Chicago, Ill.

## BORINGS (Core.)

Kennedy-Riegler Drilling Co., New York.  
Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRASS GOODS.

Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.  
—(Vitrified, Paving.)  
National Paving Brick Assn., Washington, D. C.

## BRICK and CLAYWORKING MACHINERY.

Steele & Sons, J. C., Statesville, N. C.

## BRIDGE (Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

## BRIDGE SLABS.

Kerlow Steel Flooring Co., Jersey City, N. J.

## BRIDGE STRINGERS (Timber Creosoted.)

American Creosote Wks., New Orleans, La.  
Atlantic Creosoting Co., Norfolk, Va.  
Ayer & Lord Tie Co., Chicago, Ill.

## BRIDGES (Steel.)

American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Wks., Roanoke, Va.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Cincinnati Mfg. Co., Cincinnati, O.  
Heath Company, J. S., Waukegan, Ill.

## BUBBLERS.

Bundle-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Owen Bucket Co., Cleveland, Ohio.

Wellman Engr. Co., Cleveland, O.

## —(Coal.)

Owen Bucket Co., Cleveland, O.

## —(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., Cleveland, Ohio.

Wellman Engr. Co., Cleveland, O.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

## —(Material Handling.)

Owen Bucket Co., Cleveland, O.

## —(Ore Handling.)

Owen Bucket Co., Cleveland, Ohio.

## —(Rehandling.)

Owen Bucket Co., Cleveland, O.

## —(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.

## —(Wellman Engr. Co., Cleveland, O.)

## BUILDERS and Contractors.

Cowper Co., Inc., John W., Washington, D. C.  
Moyer Co., Tilghman, Allentown, Pa.  
White Engineering Corp., J. G., New York.

## BUILDING GRANITE

—(Finished.)  
North Carolina Granite Corp., The, Mount Airy, N. C.

## BUILDINGS (Industrial.)

Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Portable Sheet Metal.)

Birmingham Tank Co., Birmingham.

## BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.  
Snare Corp., Frederick, New York, N. Y.

## BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

## CABLE.

American Cable Co., New York, N. Y.

## —(Elevator.)

American Steel & Wire Co., Chicago, Ill.  
Roebing's Sons Co., John A., Trenton, N. J.

## CABLE and WIRE (Electric.)

American Steel & Wire Co., Balto., Md.  
Roebing's Sons Co., John A., Trenton, N. J.  
Western Electric Co., New York, N. Y.

## CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

## CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

## CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## CARS (Dump, Industrial, Logging and Mine.)

Southern Iron & Equipment Co., Atlanta.

## CASSIONS (Foundations, Water Wells, etc.)

United Welding Co., Middletown, O.

## CASTINGS (Alloy.)

Cincinnati Steel Castings Co., Cincinnati, Ohio.

## —(Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.

## —(Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

## —(Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.

Glamorgan Pipe & Fdy. Co., Lynchburg, Va.

Jefferson Foundry Co., Birmingham, Ala.

Richmond Foundry & Mfg. Co., Richmond, Va.

Salem Fdry. & Mch. Wks., Salem, Va.

Schofield's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

## —(Semi-Steel.)

Jefferson Foundry Co., Birmingham, Ala.

Salem Fdry. & Mch. Wks., Salem, Va.

## —(Steel.)

Cincinnati Steel Castings Co., Cincinnati, Ohio.  
Crucible Steel Casting Co., Landsdowne, Delaware Co., Pa.  
Lunkheimer Co., Cincinnati, Ohio.

## CEMENT (Portland.)

Alpha Portland Cement Corp., Birmingham, Ala.

## CHAIRS (Opera and Theatre.)

—Andrews Co., A. H., Chicago, Ill.

## CHANNELS (Steel, Hot Rolled.)

Atlantic Steel Co., Atlanta, Ga.

## CHEMICALS.

Grasselli Chemical Co., Inc., Birmingham.

## CHEMISTS, CHEMICAL ENGINEERS (Analytical.)

Freohling & Robertson, Inc., Richmond, Va.  
Hunt Co., Robert W., Chicago, Ill.

Meigs, Bassett & Slaughter, Phila., Pa.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Fort Worth, Tex.  
Stillman & Van Sclen, New York.

—(Consulting, Paper Industry.)  
Freohling & Robertson, Inc., Richmond, Va.

## CHIMNEYS (Concrete.)

Rust Engineering Co., Birmingham, Ala.

## —(Radial Brick.)

Rust Engineering Co., Birmingham, Ala.

## CHUTES (Mail.)

Cutler Mail Chute Co., Rochester, N. Y.

## CLUTCHES (Friction.)

Caldwell Co., Inc., W. E., Louisville, Ky.

## COAL (Bituminous.)

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(Coal and Ash-Handling Mch.)  
Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

## —Jigs.

Steward Machine Co., Chas. C., Birmingham, Ala.

## —Tipples.

American Bridge Co., New York, N. Y.

—(Washers.)  
Steward Machine Co., Chas. C., Birmingham, Ala.

## COCKS (Service.)

Mercer Nordstrom Valve Co., San Francisco, Calif.

## COKE.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## CONCRETE Construction (Reinforced.)

Cement Gun Construction Co., Chicago.  
Rust Engineering Co., Birmingham, Ala.

## CONCRETE MIXERS.

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

## CONDUITS (Electric, Interior, Steel.)

Western Electric Co., New York, N. Y.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## CONTRACTORS (Bridge.)

Hardaway Contracting Co., Columbus, Ga.  
Snare Corp., Frederick, New York, N. Y.

—(Drainage and Dredging.)  
Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.  
Shell Producers Co., Tampa, Fla.

## —Drilling.

Kennedy-Riegler Drilling Co., New York City.  
Mott Core Drilling Co., Huntington, W. Va.

Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.

Sprague & Henwood, Inc., Scranton, Pa.

## —(Electrical.)

Walker Electrical Co., Atlanta, Ga.  
Warner Service Co., Knoxville, Tenn.

Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)  
Snare Corp., Frederick, New York, N. Y.

**CONTRACTORS (General.)**

Blair, Algernon, Montgomery, Ala.  
Burkes, Inc., J. V. & R. T., New Orleans.  
Carnell Young Co., Inc., Macon, Ga.  
Copper Co., Inc., John W., Washington, D. C.  
Flake-Carter Constr. Co., Greenville, S. C.  
Smallman-MacQueen Construction Co., Birmingham.  
Snare Corp., Frederick, New York, N. Y.  
White Engineering Corp., J. G., New York.

**—(Industrial Buildings.)**

Blair, Algernon, Montgomery, Ala.  
Copper Co., Inc., John W., Washington, D. C.  
Flake-Carter Constr. Co., Greenville, S. C.  
Lockwood Greene Engrs., Inc., Boston.  
Smallman-MacQueen Construction Co., Birmingham, Ala.  
Snare Corp., Frederick, New York, N. Y.  
White Engineering Corp., J. G., New York.

**—(Mill Village.)**

Hornbuckle Contracting Co., Atlanta, Ga.

**—(Power Piping.)**

Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.  
Poe Piping & Heating Co., Greenville, S. C.

**—(Power Plants.)**

Snare Corp., Frederick, New York, N. Y.

**—(Railroad.)**

Cornell-Young Co., Inc., Macon, Ga.

**—(Reinforced Concrete.)**

Blair, Algernon, Montgomery, Ala.  
Cement Gun Construction Co., Chicago.  
Gumite Conc. & Constr. Co., Kansas City.

**—(Road and Street Paving.)**

Flake-Carter Constr. Co., Greenville, S. C.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrary Co., J. B., Atlanta, Ga.

**—(Sewerage and Waterworks.)**

Hardway Contracting Co., Columbus, Ga.  
Hornbuckle Contracting Co., Atlanta, Ga.  
Layne & Bowler, Inc., Memphis, Tenn.  
McCrary Co., J. B., Atlanta, Ga.  
Snare Corp., Frederick, New York, N. Y.

**—(Sprinkler System.)**

Poe Piping & Heating Co., Greenville, S. C.

**—Towing and Barging.**

Shell Producers Co., Tampa, Fla.

**CONTRACTORS MACHINERY AND SUPPLIES.**

(Used.)  
Lima Excavator Sales Agency, Lima, Ohio.  
Marine Metal & Supply Co., New York.

**CONTRACT WORK WANTED.**

(See following classifications:)

**Castings.****Foundries and Machine Shops.****Machinery (Special.)****Ornamental Iron Work.****Patterns (Drawing, etc.)****Sheet Metal Work.****Structural Steel and Iron.****CONVEYING AND ELEVATING MACHINERY.**

Cleveland Crane & Engr. Co., Wickliffe, Ohio.  
Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**CRANES.**

National Equipment Corp. (Koehring, Parsons), Milwaukee, Wisconsin.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Crawler.)**

Austin-Western Road Machinery Co., Chicago, Ill.  
Byers Machine Co., Ravenna, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Crawling Tractor.)**

Byers Machine Co., Ravenna, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Electric Traveling.)**

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**—(Full Circle Steam and Electric.)**

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Gasoline.)**

Byers Machine Co., Ravenna, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Jib.)**

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**—(Locomotive.)**

Bucyrus-Erie Co., So. Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Material Handling.)**

By City Shovels, Inc., Bay City, Mich.  
Byers Machine Co., Ravenna, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**—(Traveling, hand power.)**

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.  
Wright Mfg. Co., Bridgeport, Conn.

**CREOSOTE OIL.**

American Creosote Wks., New Orleans, La.  
Ayer & Lord Tie Co., Chicago, Ill.

**CREOSOTED WOOD MATERIALS.**

American Creosote Wks., New Orleans, La.  
Atlantic Creosoting Co., Norfolk, Va.  
Ayer & Lord Tie Co., Chicago, Ill.  
Eppinger & Russell Co., New York, N. Y.  
Gulf States Creos. Co., Hattiesburg, Miss.

**CROSS ARMS, TIES (Creosoted.)**

American Creosote Wks., New Orleans, La.  
Atlantic Creosoting Co., Norfolk, Va.  
Ayer & Lord Tie Co., Chicago, Ill.  
Eppinger & Russell Co., New York, N. Y.

**CRUSHED STONE (Road Concrete and Ballast.)**

American Limestone Co., Knoxville, Tenn.  
Boxley & Co., W. W., Roanoke, Va.  
Culbert & Sons, W. F., Marion, Va.

**CRUSHERS (Coal and Coke.)**

Fuller Lehigh Co., Fullerton, Pa.  
Steward Machine Co., Chas. C., Birmingham, Ala.

**—(Rock.)**

Gruendler Crusher & Pulverizer Co., St. Louis, Mo.

**CRUSHING and Pulverizing Machinery.**

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Austin-Western Road Machinery Co., Chicago, Ill.  
Fuller Lehigh Co., Fullerton, Pa.  
Gruendler Crusher & Pulverizer Co., St. Louis, Mo.

**CULVERT PIPE (Cast Iron.)**

Cast Iron Pipe Research Assn., Chicago.  
U. S. Pipe & Foundry Co., Burlington, N. J.

**—(Corrugated Metal.)**

American Sheet & Tin Plate Co., Pittsburgh, Pa.

**CYLINDERS (Compressed Air, Gas.)**

National Tube Co., Pittsburgh, Pa.

**DESKS (School.)**

Andrews Co., A. H., Chicago, Ill.

**DITCHING MACHINERY.**

Bay City Shovels, Inc., Bay City, Mich.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**DOORS (Cabinet Woodwork.)**

Mitchell Mfg. Co., Robert, Cincinnati, O.

**—(Fire.)**

Merchant & Evans Co., Philadelphia, Pa.

**—(Fireproof, Air Chamber.)**

Wilson Corp., The J. G., New York.

**—(Kalamelin and Hollow Metal.)**

Cincinnati Mfg. Co., Cincinnati, O.

**—(Rolling, Steel and Wood.)**

Wilson Corp., The J. G., New York.

**—(Vault.)**

York Safe & Lock Co., York, Penna.

**DRAFTSMEN'S SUPPLIES.**

Weber Co., Inc., F., Philadelphia, Pa.

**DRAGLINE EXCAVATORS.**

Bucyrus-Erie Co., So. Milwaukee, Wis.  
National Equipment Corp. (Koehring), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

**DREDGES (Dipper, Elevator, Hydraulic.)**

Bay City Shovels, Inc., Bay City, Mich.  
Bucyrus-Erie Co., So. Milwaukee, Wis.

**DREDGING (River and Harbor Improvement.)**

Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.  
Shell Producers Co., Tampa, Fla.

**DRILLS (Diamond and Shot Core.)**

Sprague & Henwood, Inc., Scranton, Pa.  
—(Oil and Artesian Well.)  
Virginia Machinery & Well Co., Inc., Richmond, Va.

**DRINKING FOUNTAINS.**

Rundle-Spence Mfg. Co., Milwaukee, Wis.

**DYNAMITE (Industrial and Agricultural.)**

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

**ECONOMIZERS (Fuel.)**

Babcock & Wilcox Co., New York, N. Y.

**ECONOMISTS (Administrative.)**

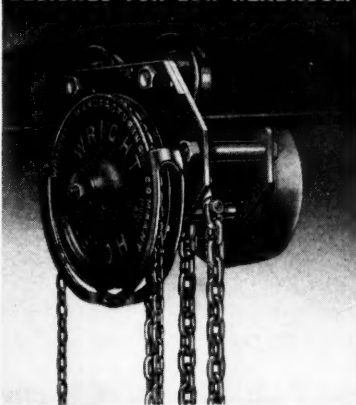
Brookmire Economic Service, New York.

**ELECTRICAL Instruments and Supplies.**

General Electric Co., Schenectady, N. Y.  
Western Electric Co., New York, N. Y.

**ELECTRICAL MACHINERY**

(Generators, Motors, etc., New.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Fairbanks, Morse & Co., Chicago, Ill.  
General Electric Co., Schenectady, N. Y.  
Partridge, Arthur S., St. Louis, Mo.  
Rockford Power Machy. Co., Rockford, Ill.

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Savannah, Ga.

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PITTSBURGH—WASHINGTON—NEW YORK—CHICAGO

**CHARLESTON DRY DOCK & MACHINE CO.**

CHARLESTON, S. C.

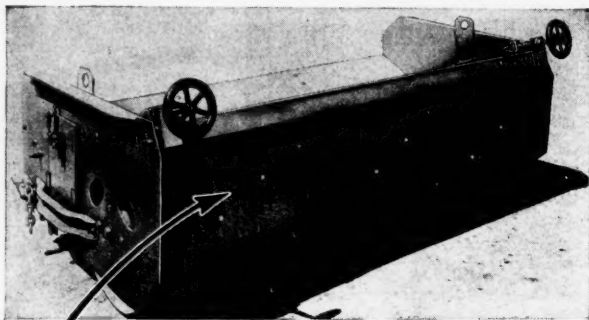
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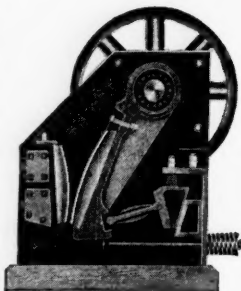
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### —(Generators, Motors, etc., Used.)

Delta Equipment Co., Philadelphia, Pa.  
Electric Service Co., Cincinnati, Ohio.  
General Electric Co., Schenectady, N. Y.  
O'Brien Machinery Co., The, Phila., Pa.  
Reading Engineering Wks., Reading, Pa.  
Rockford Power Mch. Co., Rockford, Ill.

### —Repairing (Motors, Generators, etc.)

Electric Service Co., Cincinnati, Ohio.

### ELECTRIC LIGHTING.

General Electric Vapor Lamp Co., Hoboken, N. J.  
Westinghouse Lamp Co., New York City.

### ELECTRIC SHOVELS (See Shovels.)

### ELEVATORS (Electric.)

American Elevator & Machine Co., Inc., Louisville, Ky.  
Millner Co., St. Louis, Mo.  
—(Hand and Belt Power.)  
American Elevator & Machine Co., Inc., Louisville, Ky.  
Millner Co., St. Louis, Mo.

### —(Hydraulic.)

American Elevator & Machine Co., Inc., Louisville, Ky.

### ENGINEERS (Airports.)

Lockwood Greene Engrs., Inc., New York.

### —(Appraisal.)

Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiedeman and Singleton, Inc., Atlanta.

### —(Bridge.)

Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hardaway Contracting Co., Columbus, Ga.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Steel & Leiby, Knoxville, Tenn.  
Virginia Bridge & Iron Co., Roanoke, Va.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

### —(Chemical.)

Dow & Smith, New York, N. Y.

Picard Laboratories, Birmingham, Ala.

### —(Civil.)

Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills and Youngberg, Jacksonville, Fla.  
Main, Inc., Chas. T., Boston, Mass.  
Saxe, Van Rensselaer P., Baltimore, Md.  
Spring, Chas. Herbert, Greensboro, N. C.  
Steel & Leiby, Knoxville, Tenn.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

### —(Consulting.)

Barstow & Co., W. S., New York City.  
Converse & Co., J. B., Mobile, Ala.  
Cramer, Robert, Milwaukee, Wis.  
Engineering Service Corp., Houston, Tex.  
Goder, Joseph, Chicago, Ill.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Saxe, Van Rensselaer P., Baltimore, Md.

Smith, Elroy G., Augusta, Ga.

Stillman & Van Sclen, New York, N. Y.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiedeman & Singleton, Inc., Atlanta, Ga.

Wiley & Wilson, Lynchburg, Va.

### —(Cost.)

Ernst & Ernst, New York, N. Y.

### —(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.  
Barstow & Co., W. S., New York City.  
Byllesby Engineering and Management Corp., Chicago, Ill.

Gardner & Howe, Memphis, Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Lee Engineering Corp., William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sirrine & Co., J. E., Greenville, S. C.

White Engineering Corp., J. G., New York.

Wiley & Wilson, Lynchburg, Va.

### —(Drainage and Irrigation.)

Cramer, Robert, Milwaukee, Wis.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

### —(Efficiency.)

Ernst & Ernst, New York, N. Y.

Whitman, Requaardt & Smith, Balto., Md.

### —(Electrical.)

Engineering Service Corp., Houston, Tex.  
Hoosier Engineering Co., Chicago, Ill.  
Lee Engineering Corp., William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Webb Electric Co., Anderson, S. C.

Wiley & Wilson, Lynchburg, Va.

### —(Electric Light and Power.)

Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Cramer, Robert, Milwaukee, Wis.

Hall, J. Henry, Lexington, Ky.

Lee Engineering Corp., William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.  
White Engineering Corp., J. G., New York, N. Y.  
Wiley & Wilson, Lynchburg, Va.

### —(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.  
Huey, S. E., Monroe, La.

### —(Geological.)

Froehling & Robertson, Inc., Richmond, Va.

### —(Harbor Improvements.)

Engineering Service Corp., Houston, Tex.

### —(Heating.)

Wiley & Wilson, Lynchburg, Va.

### —(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.  
Main, Inc., Chas. T., Boston, Mass.  
Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

### —(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.  
Barstow & Co., W. S., New York City.  
Byllesby Engineering and Management Corp., Chicago, Ill.

Hall, J. Henry, Lexington, Ky.

Lee Engineering Corp., William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sirrine & Co., J. E., Greenville, S. C.

White Engineering Corp., J. G., New York, N. Y.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

### —(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

### —(Industrial Plants.)

Barstow & Co., W. S., New York City.  
Consoer, Older & Quinlan, Inc., Chicago.  
Converse & Co., J. B., Mobile, Ala.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hall, J. Henry, Lexington, Ky.  
Hills and Youngberg, Jacksonville, Fla.  
Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Preacher & Co., Inc., G. Lloyd, Atlanta.

Sirrine & Co., J. E., Greenville, S. C.

Smith, Elroy G., Augusta, Ga.

Wiley & Wilson, Lynchburg, Va.

### —(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.

Lockwood Greene Engrs., Inc., New York.

### —(Inspection and Tests.)

Cramer, Robert, Milwaukee, Wis.  
Dow & Smith, New York, N. Y.

Froehling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.

McCallum Inspection Co., Norfolk, Va.

Picard Laboratories, Birmingham, Ala.

Southwestern Laboratories, Ft. Worth, Tex.

### —(Lighting.)

Byllesby Engineering and Management Corp., Chicago, Ill.  
General Electric Vapor Lamp Co., Hoboken, N. J.

Westinghouse Lamp Co., New York City.

Wiley & Wilson, Lynchburg, Va.

### —(Mechanical.)

Engineering Service Corp., Houston, Tex.  
Lee Engineering Corp., William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

McGee, Bassett & Slaughter, Phila., Pa.

Wiley & Wilson, Lynchburg, Va.

### —(Mining. See Engineers, Geological.)

### —(Municipal.)

Consoer, Older & Quinlan, Inc., Chicago.  
Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

McCrary Co., The J. B., Atlanta, Ga.

Wiley & Wilson, Lynchburg, Va.

### —(Paving and Roads.)

Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.

### —(Printing and Newspaper Plants.)

Lockwood Greene Engrs., Inc., New York.

—(Public Service Properties.)

Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Hall, J. Henry, Lexington, Ky.

Main, Inc., Chas. T., Boston, Mass.

White Engineering Corp., J. G., New York.

### —(Railroad.)

Huey, S. E., Monroe, La.

### —(Reinforced Concrete Bridges, Buildings, etc.)

Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Saxe, Van Rensselaer P., Baltimore, Md.

Steel & Leiby, Knoxville, Tenn.

### —(Sanitary.)

Cramer, Robert, Milwaukee, Wis.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

—(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.

McCrary Co., The J. B., Atlanta, Ga.

Whitman, Requaardt & Smith, Balto., Md.

Wiedeman and Singleton, Inc., Atlanta.

Wiley & Wilson, Lynchburg, Va.

—(Sewerage and Waterworks.)

Consoer, Older & Quinlan, Inc., Chicago.

Hall, J. Henry, Lexington, Ky.

Hardaway Contracting Co., Columbus, Ga.

Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills and Youngberg, Jacksonville, Fla.  
White Engr. Corp., J. G., New York, N. Y.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.  
Wiley & Wilson, Lynchburg, Va.

—(Structural.)

Hills and Youngberg Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
Lockwood Greene Engrs., Inc., New York.  
Saxe, Van Rensselaer P., Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Whitman, Requaardt & Smith, Balto., Md.

—(Textile Mills.)

Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Sirrinc & Co., J. E., Greenville, S. C.

—(Transmission Lines.)

Hoosier Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

ENGINES (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.  
Superior Engine Co., Springfield, O.

—(Gas and Gasoline.)

Sterling Engine Co., Buffalo, N. Y.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Schofield's Sons Co., J. S., Macon, Ga.

ENVELOPES.

Young & Selden Co., Baltimore, Md.

ESTIMATORS (Building & Construction.)

Martin, Joe B., Washington, D. C.  
Spring, Chas. Herbert, Greensboro, N. C.

EXCAVATING MACHINERY.

Austin-Western Road Machinery Co., Chicago, Ill.

Bay City Shovels, Inc., Bay City, Mich.  
Bucyrus-Erie Co., So. Milwaukee, Wis.  
National Equipment Corp., (Koehring, Parsons), Milwaukee, Wisconsin.

Northwest Engineering Co., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.

EXCAVATORS (Clamshell and Orange Peel.)

Byers Machine Co., Ravenna, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

—(Dragline. See Dragline Excavators.)

—(Trench.)

Bay City Shovels, Inc., Bay City, Mich.  
Bucyrus-Erie Co., So. Milwaukee, Wis.  
Ohio Power Shovel Co., Lima, Ohio.

EXPANSION JOINTS (Road and Street.)

Carey Co., Philip, Lockland, Cincinnati, Ohio.

EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

FACTORY Management Systems.

Ernst & Ernst, New York, N. Y.

FEED-WATER HEATERS and Purifiers.

American Water Softener Co., Phila., Pa.  
International Filter Co., Chicago, Ill.

FENCING, ENTRANCE GATES (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.  
Atlantic Steel Co., Atlanta, Ga.  
Cyclone Fence Co., Waukegan, Ill.

FENCING (Field and Industrial, Wire Woven.)

American Steel and Wire Co., Balto., Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.

FERTILIZER Mixing Plants.

Grumler Crusher & Pulverizer Co., St. Louis, Mo.

FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.  
Beharash & Co., E. W., Kansas City, Mo.

International Filter Co., Chicago, Ill.  
Roberts Filter Mfg. Co., Darby (Phila.).

FINANCING.

Electric Bond & Share Co., New York.

FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.

—Doors and Shutters.

Wilson Corp., The J. G., New York City.

FITTINGS (Wire Rope.)

American Steel & Wire Co., Chicago, Ill.  
Roebbing's Sons Co., John A., Trenton, N. J.

FLANGES (Iron and Steel.)

Dart Mfg. Co., E. M., Providence, R. I.  
Ryerson & Son, Inc., Jos T, St. Louis and New York City

U. S. Pipe & Foundry Co., Burlington, N. J.

—(Swivel.)

Merco Nordstrom Valve Company, San Francisco, Cal.

FLOOR (Asphalt Mastic.)

Barber Asphalt Co., Philadelphia, Pa.

—(Northern Hard Maple.)

Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)

Kerlow Steel Flooring Co., Jersey City, N. J.

FLOOR Plates and Stair Treads.

Central Iron & Steel Co., Harrisburg, Pa.

FLOORING (Laid and Finished.)

Osborne, Earl N., Roanoke, Va.

FORMED PRODUCTS (Roofing.)

American Rolling Mill Co., Middletown, O.

FOUNDRIES and Machine Shops.

General Machine Works, York, Pa.  
Giamorgan Pipe & Fdy. Co., Lynchburg, Va.

Lombard Iron Works & Supply Co., Augusta, Ga.  
Richmond Foundry & Mfg. Co., Richmond, Va.

FOUNDRY Equipment and Supplies.

Hill & Griffith Co., Cincinnati, O.

FOUNDRY FACINGS (Tale and Soapstone.)

Hill & Griffith Co., Cincinnati, O.

FURNACES (Water-Cooled.)

Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.

Bessemer Galvanizing Works, Birmingham, Ala.

Cattle & Bros., Jos. P., Philadelphia, Pa.  
Enterprise Galvanizing Co., Phila., Pa.

—Steel and Iron.

American Rolling Mill Co., Middletown, O.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.

GAS HOLDERS.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.

GAS PRODUCERS.

Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.

Gulf Refining Co., Pittsburgh, Pa.

GEARS.

Earle Gear & Machine Co., Phila., Pa.  
General Electric Co., Schenectady, N. Y.

GENERATORS, MOTORS (New.)

General Electric Co., Schenectady, N. Y.

—(Used.)

Guyon Machine Shops, Logan, W. Va.  
O'Brien Machinery Co., Phila., Pa.

GEOLOGISTS. (See Engineers Geological.)

GLASS. (Window.)

Pittsburgh Plate Glass Co., Pittsburgh.

GRADERS (Elevating.)

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—(Steam.)

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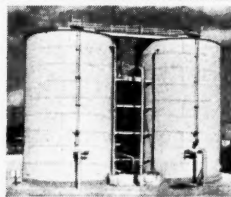
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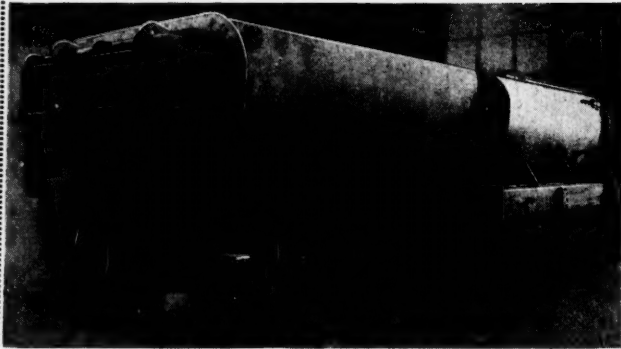
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
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Central Iron & Steel Co., Harrisburg, Pa.  
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Mueller Co., Decatur, Ill.

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Bethlehem Steel Co., Bethlehem, Pa.  
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Gulf States Steel Co., Birmingham, Ala.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
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Virginia Bridge & Iron Co., Roanoke, Va.

—(Cold Rolled.)  
American Steel & Wire Co., Balto., Md.  
—(Fabricators.)  
United Welding Co., Middletown, O.  
—(Tool, High Speed.)  
Bethlehem Steel Co., Bethlehem, Pa.

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American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.  
—Plate Construction (Riveted or Welded.)  
Birmingham Boiler & Engr. Co., Birmingham, Ala.  
Birmingham Tank Co., Birmingham, Ala.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Central Iron & Steel Co., Harrisburg, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham, Pa.  
Downingtown Iron Works, Downingtown, Pa.

Hedges Walsh Weldner Co., Chattanooga, Ga.  
Ingalls Iron Works Co., Birmingham, Ala.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
United Welding Co., Middletown, O.

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Babcock & Wilcox Co., The, New York.  
Detroit Stoker Company, Detroit, Mich.

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General Warehouse & Storage Co., Atlanta, Ga.

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Austin Bros. Bridge Co., Atlanta, Ga.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Carnegie Steel Co., Pittsburgh, Pa.  
Carolina Steel & Iron Co., Greensboro, N. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Dietrich Brothers, Baltimore, Md.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Phoenix Iron Co., The, Phila., Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.  
Snead Architectural Iron Works, Louisville, Ky.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

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Grasselli Chemical Co., Inc., Birmingham.

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Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

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Koppers Products Co., Pittsburgh, Pa.

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Technical Service Co., New York, N. Y.  
—(Quantity.)  
Martin, Joe B., Washington, D. C.  
Spring, Charles Herbert, Washington, D. C.

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Dake Engine Co., Grand Haven, Mich.

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Erant & Ernst, New York, N. Y.

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Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham, Pa.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.  
—(Elevated Wood.)  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)  
American Bridge Co., New York, N. Y.  
Birmingham Tank Co., Birmingham, Ala.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
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Cole Mfg. Co., R. D., Newnan, Ga.  
Downingtown Iron Works, Downingtown, Pa.  
Finnigan Co., Inc., J. J., Atlanta, Ga.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Westinghouse Traction Brake Co., Westinghouse, Pa.

—(Seamless Steel.)  
National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)  
Biggs Boiler Works, Akron, Ohio.  
Birmingham Boiler & Engr. Co., Birmingham, Ala.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham, Pa.  
Downingtown Iron Works, Downingtown, Pa.  
Ingalls Iron Works Co., Birmingham, Ala.  
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.  
Titusville Iron Works Co., Titusville, Pa.  
United Welding Co., Middletown, O.

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—(Roof.)  
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Gerding Bros., Cincinnati, O.

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**sion.)**  
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Cleveland Tractor Co., Cleveland, O.

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Cleveland Tractor Co., Cleveland, O.

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Wellman Engr. Co., Cleveland, O.

**TRAMRAIL SYSTEMS (Hand or Electric.)**  
Cleveland Crane & Engr. Co., Wickliffe, O.

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Lenkenheimer Co., The, Cincinnati, Ohio.

—(Corrosive Liquids.)  
La Bour Co., Elkhart, Ind.

—(Gate.)  
Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Lenkenheimer Co., The, Cincinnati, Ohio.  
Wood & Co., R. D., Philadelphia, Pa.

—(Non-Corrosive Liquids.)  
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York Safe & Lock Co., York, Penna.

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Gulf States Steel Co., Birmingham, Ala.

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Cyclone Fence Co., Waukegan, Ill.

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Hazard Wire Rope Co., Wilkes-Barre, Pa.

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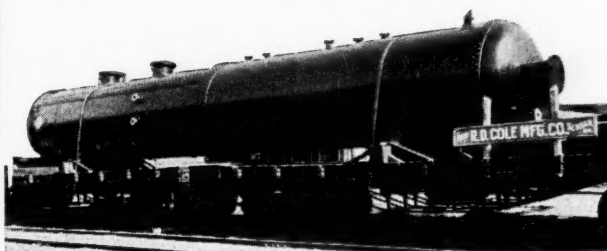
Seneca Wire & Mfg. Co., Fostoria, O.

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Mitchell Mfg. Co., Robert, Cincinnati, O.

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J. S. SCHOFIELD'S SONS CO., INC.  
Macon, Georgia, U. S. A.



# Index of Advertisements

A		L		S	
Albert & Davidson Pipe Corp.	51	LaBour Co.	41	Saxe, Van Rensselaer P.	6
Albert Pipe Supply Co.	51	Law & Co.	47	Schofield's Sons Co., J. S.	61
Allis-Chalmers Mfg. Co.	56	Lawrence, H. C.	51	Shell Producers Co.	52
Alpaugh & Sons, Chas. W.	6	Leadite Co.	10	Shore Line Builders, Inc.	6
American Cable Co.	64	Lee Clay Products Co.	58	Sirrine & Co., J. E.	7
American Creosote Works, Inc.	55	Lee Engineering Corp., W. S.	6	Smallman-MacQueen Const. Co.	6
American Elev. & Machine Co.	43	Lockwood-Greene Engrs., Inc.	7	Smith, Elroy G.	6
American Limestone Co.	53			Smith, Oscar T.	47
Andrews Co., A. H.	7			Snead Architectural Iron Wks.	59
Arundel Corporation	53			Snare Corp., Frederick	7
Atlantic Creosoting Co.	55			Southern Drilling Co.	7
Atlantic Gulf & Pacific Co.	52			Southern Iron & Equip. Co.	51
Atlantic Steel Co.	45			Southwestern Laboratories	7
B		M		T	
Bacharach & Co., E. W.	47	Main, Inc., Chas. T.	6	Table of Contents	9
Baltimore Commercial Bank	47	Marine Metal & Supply Co.	51	Tennessee Coal, Iron & R. R.	63
Barstow & Co., W. S.	7	Martin, Joe B.	6		
Belmont Iron Works	45	McCrary Co., J. B.	7		
Bessemer Galvanizing Works	59	Milburn, Heister & Co.	6		
Bethlehem Steel Co.	44	Model Land Co. (Flagler System)	47		
Blair, Algernon	6	Mott Core Drilling Co.	7		
Bristol Steel & Iron Works	45	Moyer Co., Tilghman	6		
Bucyrus-Erie Co.	52	Mundt & Sons, Chas.	59		
Buffalo-Springfield Roller Co.	52	Myers & Bro. Co., F. E.	58		
Burkes, J. V. & R. T.	6				
Byllesby Engineering & Management Corp.	6				
C		N		V	
Cabot, Inc., Samuel	10	National Equipment Corp.	5	Virginia Bridge & Iron Co.	43
Caldwell Co., W. E.	60	National Publishers Asso.	48	Virginia Machinery & Well Co.	59
Carborundum Co.	8	Northwest Engineering Co.	3		
Carolina Steel & Iron Co.	45	North Carolina Granite Co.	43		
Cement Gun Construction Co.	47	Nuveen & Co., John	47		
Central Iron & Steel Co.	56				
Central Pipe & Supply Co.	51				
Century Wood Preserving Co.	45				
Charleston Dry Dock & Mch. Co.	55				
Chase, William J. J.	6				
Chattanooga Boiler & Tank Co.	60				
Chicago Bridge & Iron Works	59				
Classified Opportunities	50				
Cole Mfg. Co., R. D.	61				
Consoer, Older & Quinlan, Inc.	6				
Converse & Co., J. B.	6				
Cornell-Young Co.	6				
Cowper Co., The John W.	6				
Cramer, Robert	6				
Crucible Steel Casting Co.	45				
Culbert & Sons, W. F.	53				
D		O		W	
Dake Engine Co.	52	Ohio Power Shovel Co.	53	Walker Electrical Co.	6
Delaware Reg. Trust Co.	47	Old Dominion Box Co.	10	Warner Service Co.	6
Dietrich Brothers	59	Osborne, Earl N.	6	Webb Electric Co.	6
E		Owen Bucket Co.	52	Wellman Engineering Co.	52
Dow & Smith	6	Owensboro Sewer Pipe	58	Western Electric Co.	4
Downingtown Iron Works	60			Westinghouse Traction Brake Co.	41
Dunning & Boschert Press Co.	43			Whitaker Paper Co.	7
F				White Engineering Corp., J. G.	7
Earle Gear & Machine Co.	56			Whitman, Requardt & Smith	6
Engineering Service Corp.	6			Wides Pipe & Supply Co.	51
Eppinger & Russell Co.	10			Wiedeman and Singleton, Inc.	6
Equipment Corp. of America	51			Wiley & Wilson	7
Erdle Perforating Co.	59			Woodstock Slag Corp.	53
G				Wright Mfg. Co.	53
Finnigan Co., J. J.	43				
Fiske-Carter Construction Co.	6				
Friend & Co.	53				
Froehling & Robertson	7				
H					
Gardner & Howe	6				
Georgia Iron Works	58				
Georgia Marble Co.	43				
Glamorgan Pipe & Fdry. Co.	58				
Greenpoint Iron & Pipe Co.	51				
Greiner & Co., J. E.	6				
Gruendler Crusher & Pulverizer Co.	56				
Gulf Refining Co.	10				
Guyan Machine Shops	51				
I					
Hall, J. Henry	6				
Hardaway Contracting Co.	6				
Harrub Engr. Co., C. N.	6				
Highland Pines Inn	46				
Hoosier Engineering Co.	6				
Hornbuckle Contracting Co.	6				
Hudson Pipe & Supply Co.	51				
Huey, S. E.	6				
Hunt Co., Robert W.	7				
Hyman-Michaels Co.	51				
J					
Jefferson Foundry Co.	45				
K					
Kennedy-Riegger Drilling Co.	7				
Kerlow Steel Flooring Co.	43				
L					
LaBour Co.	41				
Law & Co.	47				
Lawrence, H. C.	51				
Leadite Co.	10				
Lee Clay Products Co.	58				
Lee Engineering Corp., W. S.	6				
Lockwood-Greene Engrs., Inc.	7				
M					
Main, Inc., Chas. T.	6				
Marine Metal & Supply Co.	51				
Martin, Joe B.	6				
McCrary Co., J. B.	7				
Milburn, Heister & Co.	6				
Model Land Co. (Flagler System)	47				
Mott Core Drilling Co.	7				
Moyer Co., Tilghman	6				
Mundt & Sons, Chas.	59				
Myers & Bro. Co., F. E.	58				
N					
National Equipment Corp.	5				
National Publishers Asso.	48				
Northwest Engineering Co.	3				
North Carolina Granite Co.	43				
Nuveen & Co., John	47				
O					
Ohio Power Shovel Co.	53				
Old Dominion Box Co.	10				
Osborne, Earl N.	6				
Owen Bucket Co.	52				
Owensboro Sewer Pipe	58				
P					
Pennsylvania Drilling Co.	7				
Phoenix Iron Co., The	44				
Picard Laboratories	6				
Pipe Railing Construction Co.	45				
Poe Piping & Heating Co.	6				
Preacher & Co., Inc., G. Lloyd	6				
Proposal Advertisements	49-50				
R					
Resale Department	51				
Richmond Fdry. & Mfg. Co.	45				
Roanoke Iron & Bridge Wks.	59				
Roberts Filter Mfg. Co.	47				
Robinson & Orr	51				
Roebbing's Sons Co., John A.	2				
Rust Engineering Co.	55				
S					
Saxe, Van Rensselaer P.	6				
Schofield's Sons Co., J. S.	61				
Shell Producers Co.	52				
Shore Line Builders, Inc.	6				
Sirrine & Co., J. E.	7				
Smallman-MacQueen Const. Co.	6				
Smith, Elroy G.	6				
Smith, Oscar T.	47				
Snead Architectural Iron Wks.	59				
Snare Corp., Frederick	7				
Southern Drilling Co.	7				
Southern Iron & Equip. Co.	51				
Southwestern Laboratories	7				
Sprague & Henwood, Inc.	7				
Spring, Chas. Herbert	6				
Steel and Lebbey	6				
Steele & Sons, J. C.	43				
Stillman and Van Sicken, Inc.	6				
T					
Table of Contents	9				
Tennessee Coal, Iron & R. R. Co.	63				
V					
Virginia Bridge & Iron Co.	43				
Virginia Machinery & Well Co.	59				
W					
Walker Electrical Co.	6				
Warner Service Co.	6				
Webb Electric Co.	6				
Wellman Engineering Co.	52				
Western Electric Co.	4				
Westinghouse Traction Brake Co.	41				
Whitaker Paper Co.	7				
White Engineering Corp., J. G.	7				
Whitman, Requardt & Smith	6				
Wides Pipe & Supply Co.	51				
Wiedeman and Singleton, Inc.	6				
Wiley & Wilson	7				
Woodstock Slag Corp.	53				
Wright Mfg. Co.	53				
Classified Index					
Classified Index	54-61				
Classified Opportunities	50				
Professional Directory Cards	6-7				
Proposal Advertisements	49-50				
Resale Department	51				

See Classified Index for complete list of advertisers and products advertised. When corresponding with these firms, mention the MANUFACTURERS RECORD.